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The Journal of the Fire Protection Profession

DECEMBER 26, 1928

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"And Pass It On—"

HAPPY NEW YEAR, say we, with all the sincerity that this wonderful holiday season inspires.

¶ Once more we are prompted to share with our readers this famous old "Prayer found in Chester Cathedral," which we hope you will enjoy as much as we have:

¶ **"Give me a good digestion, Lord, and also something to digest. Give me a healthy body, Lord, with sense to keep it at its best.**

¶ **"Give me a healthy mind, good Lord, to keep the good and pure in sight, which seeing sin is not appalled, but finds a way to set it right.**

¶ **"Give me a mind that is not bored, that does not whimper, whine or sigh; don't let me worry overmuch about the fussy thing called I.**

¶ **"Give me a sense of humor, Lord; give me the grace to see a joke, to get some happiness from life, and pass it on to other folk."**

¶ Pretty hard to beat that, for 1929, isn't it?

The Publishers

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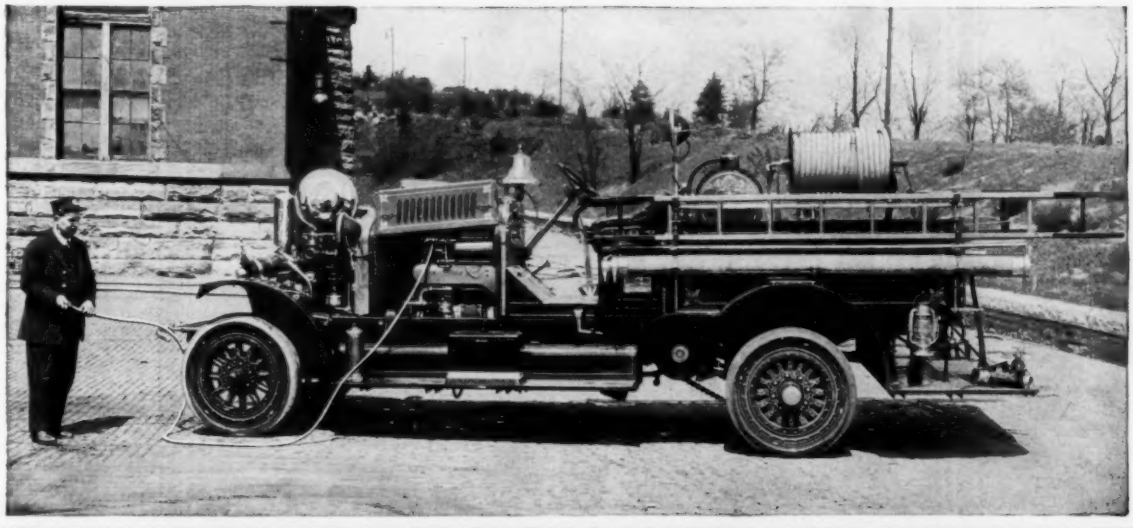

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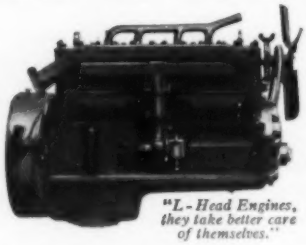

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(A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER)

The Journal of the Fire Protection Profession

VOLUME LXXXI DECEMBER 26, 1928 NUMBER 26

Departments Should Produce Revenue!

Modern Fire Apparatus Makes it Possible to Decrease Number of Houses—Many Stations Located on Valuable Land That Should be Sold

By JOHN ASHMEAD*

WHY shouldn't the fire department become income producing?

There's not a chief in the country but would welcome more money for his organization. There's not a citizen in the world but would be glad of a reduction in his tax bill.

Wonderful benefits are being derived from the silent, persevering methods that are instilling fire prevention principles in the public mind. Cooperation with scientific authorities is developing fire apparatus to an undreamed of efficiency. Educators have adopted the control of fire as a subject suitable for their curriculums. The only thing that lags behind the wheel of progress is the public fire department. And the reason for this is money!

Development work is costly. It requires that salaries, printing, postage and other expenses be paid. The head of a private corporation can convince his board of directors of the necessity for an expenditure and funds are forthcoming. But the only way a fire department chief can get more money is through taxation.

There is a natural antipathy to an increase in taxation. Many city fathers have suffered political eclipse through meddling with taxes. A chief who attempts to secure an additional appropriation that affects the tax rate is almost sure of defeat. It is not surprising therefor, to find officials charged with responsibility, searching in all directions for ways and means of maintaining and improving their departments without having to ask for additional funds.

Regardless of how well-meaning their efforts, the fact remains that there is nothing so destructive to efficiency as a lack of means for improvement. Realization that this is so has forced consideration of the possibilities for obtaining revenue from heretofore undeveloped sources.

Fire Stations in 1950 May Look Like This

In the search for more money, serious thought should be given a method of securing income by relocating fire stations. Most stations were installed in the days of horse-drawn apparatus. Conditions that governed their location then do not exist at present. In olden days it was necessary to consider the ability of horses to withstand high speed runs with heavy equipment and the probability of having to duplicate the performance immediately upon return to quarters. For this reason their radius of activity was limited. The stations were also located with a view of permitting companies to relocate nearer a big fire for second and subsequent alarms.

Companies equipped with motor apparatus are not governed by these conditions. They may be located further apart or under certain conditions of traffic, evident in many congested value sections, they can be grouped closer together to provide protection from all quadrants

* For many years, Mr. Ashmead was engineer with the National Board of Fire Underwriters, and he was advisor to the Chicago Fire Department in relocating fire apparatus and stations in that city. At present Mr. Ashmead is engineer, Phoenix Fire Insurance Co. He is also secretary of the Salvage Corps Officers Association.

of the compass. Companies responding under such a distribution will not be affected by one traffic jam.

Application of the above reasoning to the distribution of companies in any fire department will undoubtedly disclose fire stations that are poorly placed or unnecessary, if modern apparatus is in service.

A chief who will make an analysis of his company distribution will be in position to present to his superiors an interesting financial proposition. A proposition based on the possibility of obtaining an income through an intelligent administration of fire department realty holdings; involving their sale, their lease, or their exchange.

At present there are certain obstacles to this plan. Under the average city charter money derived from the transfer of municipal property must revert to a sinking fund. But this provision could be corrected by pressure of popular demand. Even the Constitution of the United States has been amended several times.

With stipulations of the Charter in full operation there is nothing to prevent an exchange of property. In this way new buildings can be secured for old, where there is sufficient difference in land values. There are cases on record of houses that cost $20,000 or less to build, standing on property worth $100,000 or more. For fire department purposes the station could be four squares away on land worth five thousand dollars. It would seem a suitable trade could be arranged in such an instance—to the profit of the community, particularly the fire department.

Naturally the fire department has developed with the growth of its city. Imagine how the value of its real estate holdings has increased. At one time Chicago had a fire station on Michigan Boulevard near where the Public Library now stands. Consider the value of some of New York's present fire station sites. Surely land worth millions of dollars should contribute to the tax roll instead of simply acting as a physical support for a few fire stations worth at the best one-tenth as much. There is no reason why a fire station should be but two stories high. The company could operate just as efficiently if it rolled out of a 50-story building. And the upper stories could be rented to return an income for fire department development. And it can be done under a leasehold.

This will be considered a radical suggestion now. But the radical ideas of the present are the conservative ones of the future.

Three Dead as Result of Arson Plot

Louis N. Leopold, furniture merchant of Waterbury, Conn., was found guilty in the Superior Court at Waterbury on November 21 on two counts of second degree murder and one count of arson and sentenced to a life term in the Connecticut state prison at Wethersfield by Judge Carl Foster after a trial lasting over six weeks. The crime for which Leopold, the father of six children, must spend the remainder of his life in prison occurred on the morning of February 5 last, at 2 a. m. Leopold hired Sam Weiss and Morris Shelnitz, both of New Haven, to burn the Waterbury Furniture Company's store on Baldwin street to collect the insurance on the contents.

Two boys, John and Joseph Moynihan, living with their parents in an apartment directly over the store, were burned to death and Weiss was killed by an explosion of gasoline used in the attempt. Shelnitz, who was injured, confessed his part in the crime and awaits sentence.

The trial, one of the most bitterly contested in the annals of Connecticut court history, lasted 23 court days. Leopold had a narrow escape from the gallows when State's Attorney L. L. Lewis perceived that the jury had found Leopold guilty of two counts of second degree murder—which carries a penalty of life imprisonment—and guilty of death by wilful burning which demands execution by hanging. The contradiction was explained and the jury was allowed to change its verdict.

While Leopold was not at the scene of the fire, the state contended that he was the brains of the trio and directly responsible for the loss of the three lives. He was sitting in at a poker game with friends at the time the fire occurred. This, the state also explained, was pre-arranged in order to throw off any suspicion that might be directed against him. It was brought out in the evidence that Leopold did not go to the fire when he heard about it.

Much of the evidence obtained by the state against Leopold was given by Shelnitz, who narrowly escaped death at the fire.

An Explosion, an Unexpected Part of an Arson Crime, Caused This Damage and the Loss of Several Lives

The building in which the fire occurred was owned by Leopold's wife. Several cans of gasoline were carried to the store. A lighted match supposedly used by the dead man Weiss, caused the gas fumes to explode and the building was a mass of flames when the Waterbury fire department was called to the scene.

The explosion was so terrific that the lower part of the building was practically consumed in a few minutes. The two Moynihan boys, asleep in the apartment over the store, escaped from the building but returned again to secure some money left there. They were in the building when the floor collapsed and they fell through and were burned to death. Their bodies, along with that of Weiss, were found by firemen. Several members of the Waterbury fire department, along with Chief Henry H. Heitman, testified during the course of the trial.

THOMAS F. MAGNER.

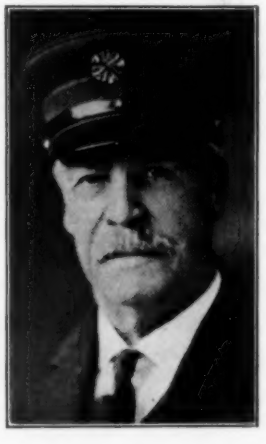
Chief Anderson 50 Years in Service

John Anderson, chief of Keokuk, Ia., has recently celebrated his fiftieth anniversary as a member of the paid fire department. His service record is even longer than that for he was a firemen under the old volunteer system.

The city organized a paid fire department in 1878 after the Keokuk Water Works Co., erected a new pumping station and mains were laid in the city streets. Chief Anderson at that time was a foreman in the Union Hand Engine company and he was transferred from that unit to the paid department.

It was the boyhood ambition of Chief Anderson to be a fireman. He had the reputation of turning out the best trained horses in the state of Iowa.

He has been head of the department since 1905, a period of twenty-three years. He has seen many changes in fire-fighting methods and in the department's equipment.



Chief John Anderson

Chief Anderson stated that he did not realize that he was so long in the service and that he did not feel any older in spite of his long service record.

Know Your Standpipe Systems!

Chiefs and Subordinates Should Carefully Study All Standpipe Installations in Their Localities—Many Sources of Danger to "Fireproof" Buildings

By ASSISTANT CHIEF THOMAS F. DOUGHERTY, New York Fire Department*

WHILE an efficient and reliable standpipe system is an absolute essential in all high buildings, an equally necessary thing is the thorough knowledge of the workings of such systems of all the buildings of the district by the Chief, officers and members of the Fire Department:

Assistant Chief Thomas F. Dougherty, New York

The idea of standpipe fire line installation on commercial buildings was developed and put into practice about fifty years ago by the best minds of that era, when buildings did not exceed six stories in height. This standpipe system consisted of a 2 or 2½-inch iron pipe attached to the front of a building, with a 2½-inch hose connection near grade level, and a 2½-inch hose connection outlet at a window at each floor level. The standpipe was at all times free of water until it was brought into action at a fire extinguishing operation, when a steam pumping fire engine was connected to it.

A great many of the original standpipe installations of the days of long ago are still in existence today, and to fire officers, young and old it should be interesting to make a comparison with the standpipe system in use at the present time, with its 3, 4, 6 or 8-inch risers, 3-inch siamese connections, clapper, check and drip valves, hose valve outlets, with hose and nozzle at each floor level, pressure reducing valves, gravity, pressure and suction tanks, including a powerful fire pump of large supply on the premises; in addition, where the height of a building requires it, additional pumps and tanks located at intermediate floor levels to insure the effectiveness and efficiency of the standpipe fire line at highest floor level.

In the smaller localities where no high building exists at the present time, it would be proper to infer that a high building may be erected within its borders in the very near future, and the head of a department in such locality should familiarize himself with all the details and requirements of a perfect standpipe system that will be effective and efficient in the structure in which it is located.

In the larger cities where high buildings are numerous, ranging in height from 10 to 60 stories, with higher structures contemplated at the present time, fires are not infrequent at very high levels.

These buildings have various occupancies, such as offices, hotels, apartment houses, storage, refrigeration, manufacturing, department stores, and other commercial uses and in some instances a theatre of large seating capacity is located in the building.

In every locality, laws and ordinances covering the installation of a standpipe system in all buildings 75 feet or more in height should be enacted, that will provide a sure and positive means of combatting the fire hazard at high elevations, and the availability of an elevator for use by the fire department should be assured; in buildings in the course of construction the standpipe should be carried up to the uppermost floor level as the building progresses, and be in such condition that it can be placed in operation without delay.

Efficiency of System Should be Insisted Upon by Chief

If an effective and efficient fire extinguishing operation is to be carried on, it implies that the standpipe and its equipment in all its details should be properly installed, and there is hardly any doubt but what the Chief of Department in any locality may be called upon to approve or make recommendations as to the standpipe installation and its necessary accessories, but whether he is consulted or not, he owes it as a duty to his community to see that the installation is such, that his community will be protected to the fullest degree from the fire hazard danger.

In this connection all and every part of a proposed standpipe system should be carefully considered from the standpoint of efficiency and after adoption of the approved plans they should be strictly adhered to; careful consideration should be given to the strength of all materials used in its construction, the location and size of the main riser or risers, hose valve outlets; arrangement of clapper, check and drain valves, assured supply

* Paper read before the annual convention of the International Association of Fire Chiefs at Philadelphia.

"A PERFECT standpipe system is practically useless in a fire emergency if the officers and members of a department are not educated and trained as to its layout and the various ways in which it may be necessary to use it under ordinary or extraordinary fire conditions which may develop."

of water for gravity and suction tanks, proper hose connections at inlets and outlets, with threads suitable to the fire department in the locality in which the buildings are located.

In very high buildings it is essential that a pressure reducing appliance should be provided at each hose outlet where the pressure at the nozzle exceeds 50 lbs.; this provision is made necessary to insure the physical safety of any civilian who may use the hose line in an emergency before the arrival of the fire department force.

The completed standpipe system should be subjected to such tests as will certify that it is able to withstand any strain it may be subjected to by such water pressure as may be necessary to provide ample nozzle pressure and volume at the buildings uppermost level.

Chiefs and Subordinates Must Understand System

Fire Chiefs and their subordinates have plenty of food for thought and study on the efficient operation of standpipe fire lines and their use when combatting the fire hazard, not alone in operating for fire extinguishing purposes in the building in which it is located, but in its utilization to extinguish fire in buildings immediately adjacent and in protecting a building that may be endangered by fire in a nearby structure.

A perfect standpipe system is practically useless in a fire emergency, if the officers and members of a department are not educated and trained as to its layout in all its details and the various ways in which it may be necessary to use it under ordinary conditions that may prevail or extraordinary fire conditions that may develop.

In addition, it is very essential that all officers and members who may engage in standpipe work be familiar with the simple rules of hydraulics, as may be applied to a fire department operation.

Suggestions for Basis of Standpipe Educational Work

A few suggestions on standpipe operation which are deemed of great importance from the practical standpoint are offered and may, to a great many persons who have had little experience in this class of work, form a basis for any educational work carried on in their department:

Is the water supply for your standpipe operation to be obtained from a high pressure system and what is its capacity at its maximum pressure?

What is the highest level to which your high pressure system will deliver an effective stream and what number of streams can your high pressure deliver at that level?

Is the water supply for your standpipe operation to be obtained from a motor pumping engine and what is its rated capacity at maximum pressure?

What is the highest level at which a pumping engine at 300 lbs. pressure will give an effective working stream through a 1⅛-inch nozzle?

Make proper calculations as to the operating value of the house pumps for fire extinguishing operations and their source of supply.

Study methods necessary to put two, three or more pumping engines into a standpipe to provide several working streams at high levels where unusual fire conditions prevail.

If it is found necessary to throw a heavy stream of water from a very high level in a building adjacent to the fire building, what methods would be followed to get the pressure and volume necessary for a 1½-inch nozzle?

Assuming that you were called upon to operate a hose stream or streams at a very high level, and you find that the standpipe system and elevator are out of order, what methods would you follow to get a stream or streams in operation?

Assuming that you have a fire at a very high elevation at which your motor pumping engine (300 lbs.) or high pressure system cannot develop sufficient pressure to give you a stream of water at the fire floor, could you obtain sufficient pressure by operating two pumping engines in tandem, or a high pressure system and a pumping engine in tandem?

Make a thorough study as to volume delivered by pumping engines or high pressure systems at various pressures. Make a study of output of pumper at various pressures. Why ask for excessive pump pressure where a lesser pressure will do the work required and give a greater volume of water at the operating level?

Make a study as to the value of 3-inch hose over 2½-inch hose, and the type and sizes of the necessary connections that should be provided, such as increasers, reducers and double male and female connections, where hose sizes or connections vary.

Fires in High Buildings

Fires in skyscraper buildings, as previously mentioned, are not infrequent, and as a general rule have been extinguished with little damage. This result is exactly what is expected where all of the circumstances connected with the fire were favorable to the carrying on of the operation by the fire department in that the fire was discovered quickly, the alarm promptly transmitted; the department responded quickly and there was no delay in getting water on the fire, as the department had the use of a serviceable elevator and standpipe with which the building was provided.

In other instances fires obtained considerable headway, due to belated discovery of the fire and consequent delayed transmission of the alarm, defective or unfinished standpipe construction, lack of elevator service or faulty construction in a building which permitted the rapid spread of fire. The latter condition is usually found in those structures which were erected in the pioneer days

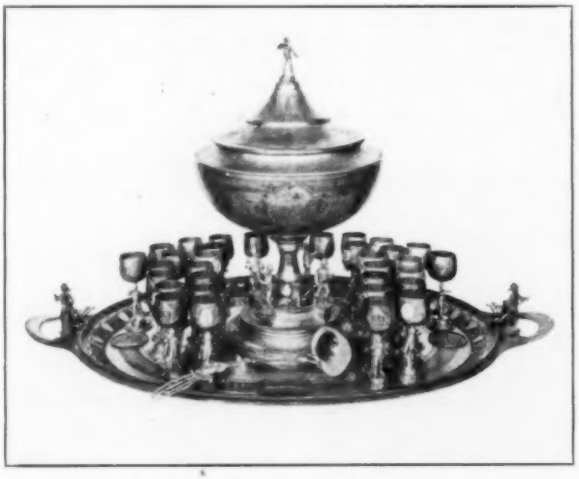
(*Continued on page* 1197)

Who Wants an Unusual Punch Bowl Set?

A real fire service punch bowl set dating back to 1872, and consisting of a bowl, tray, thirty-three goblets and a ladle, is offered for sale by Hausmann, Inc., jewelers in New Orleans, La.

The service was presented to I. N. Marks in 1872.

The tray is over twenty-six by thirty-five inches with handles in the shape of crescents. On each end is a fire plug with hose attached and follows the border to the opposite handle. In the



Old Punch Bowl Set With Fire Department Motif

center of the tray is a good sized engraving of a fire scene with the firemen in action.

The punch bowl proper is fifteen inches in diameter and sixteen inches from the base, with the cover surmounted by a three-inch firemen. It holds three and one-half gallons of liquid. The goblets are six inches high and a fireman blowing a trumpet serves as the stem. A firemen's helmet is used as the design for the ladle.

The design of the set is unique and it is believed that there is not another one like it in the world. The set is of sterling silver and weights nine hundred ounces.

What Should Modern Rules Include?

Great Variety of Rules Applying to the Rank of Captain—Fifth of a Series of Articles on This Subject

AS compared with the rules applying to chief, assistant chief and battalion chief described in the first three articles of this series, the regulations pertaining to captain are indeed numerous. Two hundred and thirty-six different rules are found for this rank in the 41 reports analyzed.

The following is a continuation of this analysis from last issue:

Four cities deem each of the following rules as essential to the rank of captain:

"They shall see that the gas burners and electric lights throughout the building are properly extinguished each day as soon as the same can be dispensed with, and that such lights are not permitted to remain lighted in the cellar, closet or other parts of building when not in use."

"They shall see that the American Flag is properly displayed on company quarters from sunrise to sunset on the following days, and in the following manner: At full mast on: Lincoln's Birthday, Washington's Birthday, Flag Day, July Fourth, and Labor Day. On Memorial Day at half mast until noon, and at full mast from noon until sunset. At half mast on the receipt of official notice of the death of any member of the Department until sunset of the day of the funeral, and such other days as may be ordered by the Chief Engineer. And it shall not be displayed at any other time nor under any circumstances before sunrise or after sunset."

"They shall see that all gongs, sirens and other devices of warning are properly sounded on going to fires, and shall promptly report in writing all accidents that occur in going to, while at, or returning from fires, or other causes, giving name, residence or place of business of the person by whom the facts in the case may be proven. They must likewise report any accident to members of their company, stating the cause and nature of such accident."

"They shall not unnecessarily endanger the lives or limbs of the men in their company or under their command."

"They shall have the power under circumstances of emergency such as willful refusal to obey orders or where the interest of the department would suffer by his remaining on duty, to suspend from duty any member or members of their companies, notifying the superior officer of such action as soon as possible thereafter."

"They shall see that every member of the company is provided with a copy of the rules and regulations and that the same are duly observed, and that every member familiarises himself with them. Upon receipt of a General Order, or of any amendment or addition to the rules, they shall, after reading at roll call, cause a copy thereof to be entered in the book furnished for that purpose and such book shall be accessible to every member of the company."

Likewise the following 18 rules each find a place in the regulations of three departments:

"They shall prepare exact semi-monthly pay rolls, specifying name and position of members, stating number of days each member has actually performed duty, and in case of absence from any cause they shall state such fact in detail. Pay rolls shall be prepared on a thirty-day month basis."

"They shall, subject to the approval of their Assistant Chief, assign one of the members of their company as acting Lieutenant during the absence of the company officers."

"On the receipt of a false alarm the company commander first arriving at the box shall make every effort to ascertain the cause of such alarm, whether malicious or otherwise, and report the result to the superior officer first to arrive."

"Prohibit card playing or other games on Sunday, or after midnight on week-days."

"See that the company does not respond to any alarm of fire out of the city, unless authorized by the Director, Chief or Assistant Chief."

"When both shifts of a Company are in service the Captain of the 'On Duty' shift for that day shall be in command, and the Captain of the 'Off Duty' shift second in command."

"The Senior Captain of any station of two or more companies shall have charge of and be held responsible for the arrangement and carrying out of a proper system of watch duty in the respective stations."

"Captains shall report in writing to the chief at once the name of any member of the department guilty of disorderly conduct or violation of the rules and regulations; any damage which their apparatus or any part of it, or furniture may have sustained, or which may have been done by the company to any property; any accidents to members of their companies, stating cause and nature."

"He shall report without delay all accidents, collisions, etc., resulting in loss of property, however slight, or other extraordinary or unusual occurrences of any nature, whether happening to members of the department or apparatus, hose, etc., or to persons or property."

"On the first of each month the Captain shall make a report of any member that is dissatisfied, arbitrary, or not obeying orders or not giving good service as a fire fighter."

"To receive all complaints, requests, reports, etc., from subordinates in writing and forward same to his District Chief, without delay, with indorsement attached."

"In stations where there are double companies work as to care of stations and apparatus shall be equally divided among the members by the Commanding Officer."

"Upon returning from a fire Captains will at once report by telephone to headquarters their companies as 'in quarters' and ready for duty. In making changes of hose care must be taken that the company is not out of service."

"In the event of accident or disability of apparatus from any cause, company commanders must notify the Assistant Chief of their district and if he cannot be reached immediateiy, the Superintendent of Machinery and Apparatus will be notified, but in all cases the Chief Officers interested must be informed of the action taken as soon as possible."

"They shall inspect all school buildings, in their respective districts during school hours at least twice each year and report all violations of ordinances with regard to exits and fire escapes."

"It shall be their duty to have the snow cleared from the nozzles of all fire hydrants and covers of reservoirs cleaned and salted where necessary in such districts as are designated by the Chief of Department."

"When ordered to change to the quarters of another company, they will, upon arriving at such quarters, immediately communicate with the operator in order to assure themselves that their companies have not been designated on another call; and upon occupying such quarters examine register and other telegraphic instruments to see that they are in perfect working order."

"While covering in other houses, company commanders will be held responsible for the action of members. They shall preserve order and not allow members to meddle with the property of others. If the covering-in period is extended to the working hours of the day, the officers will cause all necessary work to be done, prepare a change of hose and make all entries in the company journal as required by the rules."

The following group of twenty-nine rules have been found listed in the regulations for captain in two cities:

"All moneys received by any member of the fire department from private parties, corporations, or individuals for services ordinary or extraordinary rendered by them in their capacity as firemen, shall be reported in writing by the member receiving the same to the Chief Engineer through their ranking officer within five (5) days after receipt of such moneys shall be paid to the Pension and Relief funds of the department, unless otherwise ordered by the Chief Engineer. For any infraction of this rule violator thereof will be severely dealt with."

"They shall make a full detailed report in writing, including time, date, names and address of witnesses, of any courageous or meritorious act coming to their attention, performed by any member of the department and forward same to the Chief of Department through regular channels."

"They shall have power to suspend from duty any member under their command, whenever, in their opinion an emergency justifying such suspension exists and shall make immediate verbal

report of such suspension to their District Chief, this to be followed promptly by proper and well sustained written charges."

"Captains, or commanding officers will be required when entering upon their 'shift' or 'tours of duty' and prior to relieving the captain or commanding officer preceding him, to carefully read the house journal and note entries made therein during the 'shift' or 'platoon' immediately preceding so that they themselves may be thoroughly informed OF OCCURRENCES AND HAPPENINGS within the period covered by the preceeding shift or platoon. The words 'above has been read and noted' must be entered upon the house journal by the captains or commanding officer in their own signature at a point following the records of preceeding 'shift' or 'platoon'."

"They shall, subject to the approval of the assistant engineer in command of their respective districts, assign one fireman from their company to act as lieutenant in each shift, during the absence of either, or both company officers. They shall not be absent from duty except with permission of their immediate superior officer."

"A company commanding officer shall see that the premises in which fires occur are left in such condition that they will not rekindle."

"A company commanding officer shall designate competent men to drive or operate the apparatus of his company. In the case of motor apparatus he shall first obtain the approval of the Chief Engineer of his selection."

"In case two trucks are at the same fire, one shall take position in front and the other in the rear, as near as the surroundings will permit."

"They shall give personal attention to the charging of the fire extinguishers used by their company. They will see that they are properly washed out after being used, the threads on top kept clear of grit and dirt, the nozzle of the pipe kept clean, and not let a charge remain in the extinguisher longer than it should, but discharge them and put in new ones."

"When a new appointee has been assigned to his station he shall explain to him all about the apparatus and tools, where they are kept and what they are used for; his duty around the station and at fires; also how an alarm is received."

"When repairs are necessary, captains shall notify the department chief."

"Captains shall preside at the company meetings held the first Monday of each month, and cause all call members failing to attend to be fined twenty-five cents. He shall cause all call men to be fined one dollar for failing to answer within thirty minutes an alarm of fire, to which the company responds or would respond on the next succeeding alarm. Between 6:00 a. m. and 6:00 p. m. call men, whose apparatus is due to respond on next succeeding alarm are allowed to report by telephone."

"Captains to make proper report of the sprinkler system and the steamer connections in their district, and other captains not knowing anything about buildings so equipped in case being called on second or third alarm."

"They shall arrange the house and apparatus work so that each man holding the same position on opposite platoon will be doing the same work. They will be held accountable for the non-performance of any duty assigned to a member. They shall make out schedules for the following: Housework, apparatus work, pass-days, building inspection, day and night house watch, outside drills and vacations; all of which must be approved by the battalion chiefs. They shall post in a conspicuous place in quarters such approved schedule or house duties, pass-days and vacations."

"Upon receipt of an alarm of fire or a special call, still alarm or other notice, companies shall proceed directly to the fire to which such alarm, call or notice call them. But in case, while so reporting, they shall discover another fire, the commanding officer of the company shall leave a member at the fire so discovered and if necessary said member so left shall send in an alarm from the nearest fire alarm box. If confronted with extraordinary conditions, the commanding officer, in the exercise of his best judgment, may elect to remain with his company at such fire so discovered in which event he shall immediately notify headquarters."

"Upon the arrival at a fire promptly report to the officer in command. Assume command at fire when first to arrive and exercise command until the arrival of a superior officer. If the fire has assumed serious proportions and no chief officer has arrived he will immediately send out another alarm and direct the operations of all companies at the fire until the arrival of a chief officer or until the same is controlled and put out. He will then order all companies back to quarters."

"See that the time of leaving quarters on receiving an alarm of fire is taken, and record the same in the Company Journal."

"Officers shall upon returning from fire see that the sirens, gongs, bells and steam whistles on apparatus are not sounded more than is actually necessary, especially in the early morning hours.

"See that proper care is taken of all horses in their quarters and at fires, and when in good health are exercised for one hour each day (weather permitting, Sundays and holidays excepted). Should a fire occur or when you are a relief for an absent company, the exercising for that day will be omitted; in no case shall drivers while exercising be allowed to go more than two blocks from the company quarters."

"See that no animals are allowed in quarters, except one dog, one cat and singing birds."

"Be careful to know that each horse is properly shod and the paring of the hoofs properly done."

"See and carefully examine and have weighed all hay, straw, oats, feed, bran, flaxseed, etc., that may be delivered at their quarters, see that it is correct in weight, count and measure, and refuse to receive any that does not come up to the standard and notify the veterinarian of the same."

"It shall be their duty to keep themselves familiar with the streets' ends, hydrants, cisterns, pipe-lines and docks along the river in order to determine the best manner in which the apparatus can be brought into service without delay."

"He shall keep a company record in which must be entered a complete and accurate account of the number of feet of hose laid, the number of feet of ladder used, the number of chemical tanks used, the number of 2½ gallon fire extinguishers used, and also give date when hose or truck was changed. This report must be given to the chief at least once a month."

"Each captain must be sure that each member of his company knows the location of each fire alarm box, the name and location of each street in his territory and also the names of all apartment houses and know where each fire plug is located and captains will hold a school one day out of each week so that his men may learn each of the above."

"Captains who cannot command the respect of members of their companies shall be deemed inefficient and are subject to demotion in rank."

"He shall require each member of his company to properly clothe himself for night service, so as to guard against sickness which might be brought on by being unnecessarily exposed, and when working in fires shall see that they are equipped with fire hat, belt and wrench."

"They shall, under no circumstances, permit soliciting of any nature whatsoever by any person until such person presents to them a written permit issued and signed by the chief of department, or the commissioner of public safety and welfare."

"They shall, when apparatus is returned to quarters at night time in a wet or muddy condition, see that it is sponged and wiped off with chamois. The remainder of the work in cleaning the apparatus shall be left to the day shift."

(To be continued)

Portland Inventor Tests Asbestos Suit of Own Design

A Portland, Ore., fireman who designed a new asbestos suit, had sufficient confidence in his own invention to test it with a large oil fire. The inventor donned the outfit consisting of shoes, helmet, gloves and suit. The helmet is provided with a glass window so that the wearer can see where he is going, and breather openings near the airs for entrance of fresh air. The fireman walked through the large oil fire, illustrated at the right, and even paused in the center of the fire for a few moments. At the left is shown O. V. Morgan, inventor, attired in the asbestos suit.

New Fire House Wanted in Denver—The safety director of Denver, Col., has asked for the erection of a new fire house to replace the one now being used by Company No. 2.

Farmington, Cal., Plans Protection—A fire district is being planned for Farmington, Cal. It was stated that fire insurance companies will not insure grain in places that have no fire protection.

Could Fire Have Been Held?

Early Response of Apparatus and Good Water Supply Aided the Department

HERE is the story of a fire which occurred in a isolated building, four stories in height, of brick and joist construction, and despite the efforts of the department crossed a 60-foot street and involved a four-story brick and joist factory engaged in the manufacture of small machine parts. The department was well manned, had plenty of apparatus, and a good supply of water. In addition, an early alarm was sent in, not more than 30 seconds after the fire was discovered. Still, the department was unable to prevent the fire from jumping a 60-foot street and involving the building mentioned above.

It is the Editor's opinion that the department cannot be criticized too severely for permitting the extension of the fire, for a number of unusual conditions were involved. It is believed, however, that a little better assignment of lines might have been made, and this assignment will be given in the next issue of this journal.

But to go on with the story: The diagram herewith shows the layout of the fire building and surrounding buildings. Hydrants are indicated in the conventional manner. The building in which the fire started is that shown bounded by Broadway, Elkhorn St., 5th and 6th Aves. The building to which the fire extended is directly south of the fire building, across Broadway.

The Fire Department

The city in which the fire occurred has a population, according to the 1920 census, of approximately 85,000. Water supply in the neighborhood of the fire is excellent, all hydrants shown in the diagram being connected to fair or good sized mains.

The department consists of five engine companies, four hose companies, and two truck companies.

Engine Cos. Nos. 1 and 2 each have 750 gallon triple combination machines; Engine Co. No. 3 has a 1,000 gallon triple combination while Engine Co. No. 4 has a 750 gallon triple combination and Engine Company No. 5 a 500 gallon triple combination.

Hose Cos. Nos. 1, 2 and 3 are equipped with combination chemical and hose cars, with deck guns, each carrying 2,000 ft. of hose. Hose Co. No. 4 is equipped with a similar machine with the exception that it did not have a deck gun. Truck Co. No. 1 has an 85-foot aerial while truck company No. 2 has a city service truck.

The response to alarms in the neighborhood of the fire is as follows: First alarm, Engine Companies Nos. 1 and 2, Hose Company No. 1 and Truck Company No. 1.

Second alarm, Engine Companies Nos. 3 and 4 and Hose Company No. 2.

The following companies are summoned by special call only: Engine Co. No. 5, Hose Companies Nos. 3 and 4 and Truck Company No. 2.

Description of the Fire Building

As noted in the diagram, the fire building was four-story brick and joist constructed, occupied throughout by an oil coat manufacturer. In the manufacture of these particular oil coats, the garments are cut and sewed before treatment with waterproofing. The first coat of waterproofing consists of raw linseed oil which is applied by dipping the garment in a vat of this oil. Second and third coats are put on by brush.

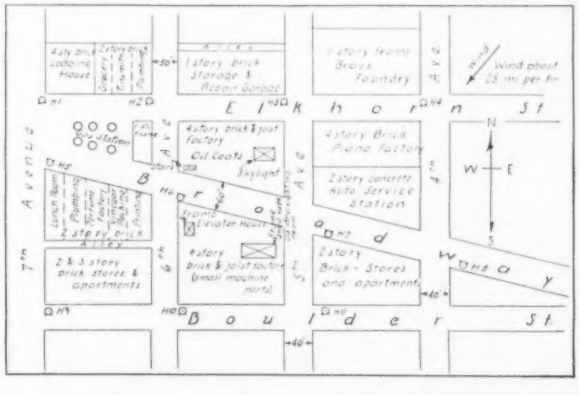
The fourth coat which is a varnish coat is applied by dipping and brushing. This latter coating is thinned with naphtha. The dry rooms used for drying the garments between coatings were of frame construction which added tremendously to the intensity of the fire once the blaze gained headway.

The basement of the building was used for the storage of linseed oil, naphtha, varnish and cloth.

The first floor was occupied as storage of finished garments, packing and shipping equipment. On this floor were a great number of packing cases, large quantities of garments ready for shipment, and packing material in bulk.

On the second floor the cutting and sewing was done. Here large quantities of waste material had accumulated, due to the fact that at this particular season the factory had been rushed for several weeks with fall orders.

On the third floor the first, second and third coats of oil were applied. There were a large number of open



vats of linseed oil, and the floor and woodwork around this part of this building were well soaked with oil.

On the fourth floor the final operation of varnishing the coats was done. On this floor a number of tubs of varnish and containers of naphtha were kept. On the fourth floor also were stored a great quantity of unfinished work, consisting of coats with three coats of oil on them.

The Fire

The fire started in the basement about 3 o'clock in the afternoon, when the force was busily at work. The porters who ordinarily transported the material from the basement to the various floors for operations were all engaged on the ground floor getting finished products ready for shipment before closing time. It is believed that one of the containers of linseed oil sprung a leak and the oil, getting into some rolls of cloth in the basement, saturated the floor and ultimately resulted in spontaneous ignition. At any rate, linseed oil had been found flowing along the floor but due to the rush

(*Continued on page* 1197)

A Standpipe that Works From the Street

Nozzles on Any Floor Operated from Ground—Raised and Swung Easily

AT the recent convention of the International Association of Fire Chiefs at Philadelphia, great interest was shown in a standpipe system displayed in the exhibit hall. This system was made in miniature, but was a perfect model of the system as installed in buildings. Its operation was demonstrated in a 12-story building on small scale, having various finishes of ceilings on the different floors. (Fig. 3) Since the convention many inquiries have been received as to the details of this stand-

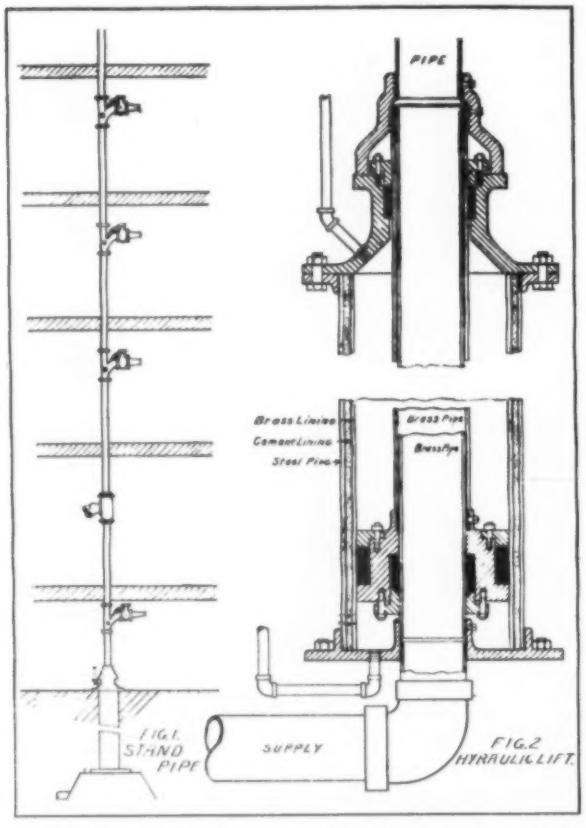


Fig. 1 (Left)—Standpipe. Fig. 2 (Right)—Hydraulic Lift

pipe system which is known as the Conran system of standpipes.

It is to answer such inquiries and to give our readers some interesting information on this system of standpipes that the following article is presented:

This standpipe is an hydraulically and manually operated inside standpipe system designed to discharge water from nozzles at any desired story of a building, the risers being capable of vertical motion and rotation.

It comprises one or more standpipes; hydraulic lift cylinders which the individual standpipes are raised and lowered; a nozzle and a hydraulically operated valve on each standpipe on each story; a control box on each standpipe provided with control cocks regulating the operation of the hydraulic lift cylinder and of the shut-off valve at individual nozzles; two turning bars at each standpipe for manual rotation; and the attachment and connection by means of which water is supplied to the system.

A standard hose connection with a gate valve may be provided on each standpipe at each story in addition to the nozzle and hydraulically operated valve.

In installation, each standpipe extends the entire height of the building. The base of the pipe carries a piston which works in a vertical cylinder in the basement or set below the floor line of the basement or subbasement. A tee is installed in each standpipe at each story except the first story and basement, the branch outlet of the tee being connected to a standard brass nozzle through a special valve containing a compression spring, a cylinder and a piston which controls the opening and closing of the valve. The control box on each standpipe is situated on the first story and is connected directly in the line of the standpipe. It may be provided with a hose connection by means of which water is supplied to the standpipe. The control box is provided with one control cock for each story nozzle, and in one pattern, a control cock for the hydraulic lift. Each cock is connected to a separate brass pipe which extends through the water way of the standpipe to the cylinder of one of the hydraulically operated story valves, and in one case, to the hydraulic lift cylinder. In another pattern, the control cock for the hydraulic lift is independent of the control box, being connected by separate brass pipes to the top and bottom of the hydraulic lift cylinder. The standpipe is provided at each floor level with a ball-bearing floor plate to facilitate the vertical and rotary motion.

The relation between the parts is shown in Fig. 1.

Use of System

The system is intended to be installed inside buildings, to be supplied with water from tanks or pumps, from street mains, or by means of fire department hose lines. In different installations, water may be supplied to each standpipe through a connection at the control box or through the hydraulic lift cylinder. The standpipes may be normally empty or may be kept in connection with a source of water under pressure. The apparatus is designed primarily for fire department use, but may be operated by the occupants of the building where it is installed.

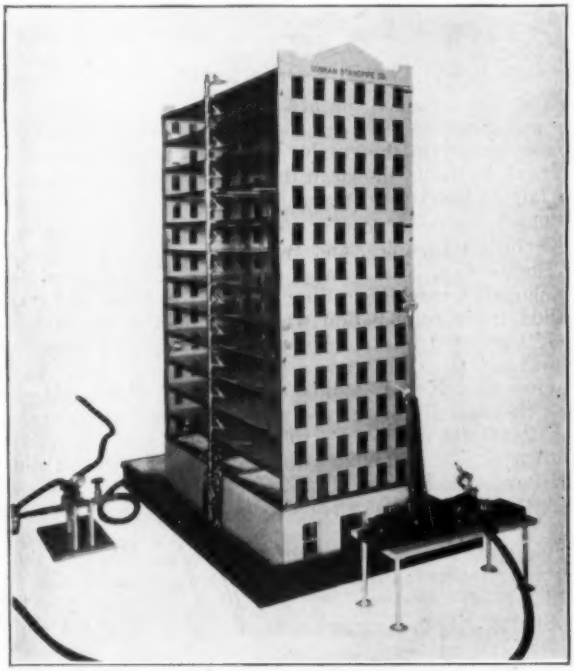


Fig. 3—12-Story Miniature Building Exhibited at the Philadelphia Convention of the I. A. F. C. to Demonstrate the Standpipe System

In the right foreground is a miniature watertower. The standpipe is shown at the left face of the building.

(Continued on page 1201)

WITH THE EDITOR

Yes, Sir! We wish you all a very Happy New Year!

Group Insurance for Firemen

A plan that has been successfully tried out in Chattanooga, Tenn., involves the insurance of the members of the Fire Department in a group. Originally this insurance covered 195 men of the Fire and Police Departments of the city, giving each the protection amounting to $2,000 for their families in case of death. The total amount of the group policy was $390,000, and the premiums were paid by the city. This plan has now been in force for over seven years.

A striking feature of this plan as practiced in Chattanooga, has been that on October 1 of this year the firemen of the city applied for $2,000 additional insurance each, with the understanding that part of the premium of this added protection was to be paid by the men themselves. The police of the city had previously taken similar action.

An advantage of this group plan of insurance—outside of its reasonable price to the individual, and that every member of the department is eligible under its provision—is that no medical examination is required in order to become a beneficiary.

There is this to be said, also, in favor of insuring the fireman. He never hesitates to leap into danger, when it is necessary in the line of duty, no matter what the apparent consequences may be to himself, but if anything would be calculated to make him hesitate, when almost certain death looms in his operations, it would be the thought that those dependent upon him would be left unprovided for.

If, on the other hand, the fireman knows that, whatever happens, his loved ones are to be taken care of, no hesitation need be his, no matter where his duty may lead him.

Should Traffic Lights Control Fire Apparatus?

A recent ruling in a Middle Western city compels fire apparatus, when responding to an alarm, to stop when traffic lights are set against them in certain crowded sections of the municipality. The consequence has been that merchants and others who have valuable property at stake in these sections have protested vigorously against this restriction, claiming that it endangers their buildings and contents in case of fire.

There would seem to be little in favor and much to condemn in such a ruling. In cities where the usual practice of giving the fire department right of way over traffic lights and allowing them to proceed when answering an alarm prevails, the number of accidents from this cause are few and far between. The reason for this, no doubt, is that the apparatus gives ample warning of their approach and the traffic officers see to it that the vehicles moving toward and at the intersections are cautioned and stopped long before the apparatus reaches the spot.

On the other hand, the serious delay occasioned by two or three enforced traffic stops at intersections by the fire apparatus could easily cause a bad fire to result, by the getting away of the blaze before the arrival of the engines. Of the two evils the delay to the apparatus by minding the traffic stops would seem to far outweigh the possible danger of accident through collision in the case of the fire apparatus proceeding against the lights.

Was This Rebuke Justified?

The action of the Philadelphia City Council in the matter of the request for salary raise by the firemen of the city would seem to savor of "rubbing it in." Not only did the governing body deny the plea of the fire fighters, but one of the members of the sub-committee in charge of matters of this nature went out of his way to rebuke the firemen for their recent campaign to effect the raise. This he characterized as "propaganda," and severely condemned the action of the men in attempting to influence public sentiment in their favor.

On the other hand another member of the Council

made a strong plea for the granting of the raise to the firemen.

There would seem to be no justification for this rebuke by the council member. The firemen had a perfect right to make any legitimate effort to interest the public in their endeavors to improve their condition. The average pay of the fireman is small enough, and in many cases hardly corresponds to the stipend of an ordinary laborer. Of course, the committee should know whether the financial condition of the city would stand the increase in salaries of the firemen. However, as the same committee recommended the increase of salaries in other departments of the city government, it would seem rather exceeding their authority to take upon themselves the rebuking of the men for their activities in an attempt to make their living a little easier in these days of high costs.

Chicago Company Makes Fast Time

Forty seconds is not much time. In the old days when Bull Durham flourished, it was impossible to roll a cigarette in that time. Many men take more than forty seconds to fill their pipe with tobacco. But in that short space of time, the crew of Engine No. 4, Chicago, consisting of ten men, slid down the brass pole, climbed onto their positions on the apparatus, drove 350 feet from the station, stretched three hundred feet of hose and had water coming through the nozzle.

It is believed that the nearest approach to that record was the time established by a company in Newark, N. J.

The Chicago company is just as efficient in ladder work. The men carried hose up ladders to the fifth story from the ground; they made seven trips in seven minutes, forty-four seconds.

Special attention was given to drills during Fire Prevention Week. Chief Corrigan said that speed makes a big difference in good fire-fighting.

Capt. Flannery, N. Y. F. D., Honored

Capt. Joseph L. Flannery of the New York Fire Department was feted by comrades and friends at the Hotel Astor recently, the occasion being in recognition of his recent promotion to a captaincy and in appreciation of his service of ten years as president of the Fire Lieutenants' Association. Dr. Harry M. Archer, beloved by all firemen of New York, was toastmaster. The speakers included Fire Commissioner John J. Dorman, Fire Chief John Kenlon, Honorary Deputy Chief W. W. Cohen and Justice Charles Pope Caldwell of the Court of Special Sessions.

Captain Joseph L. Flannery

Flannery was one of the organizers of the Uniformed Firemen's Association. For years he had been active in New York in matters affecting the welfare of his comrades. His successful activities in channels affecting legislation, pension rights, salary increase campaigns, widows and orphans funds, the two platoon law and other humanitarian activities won for him a host of friends—and at the same time he always managed to keep on diplomatic and friendly terms with official headquarters.

About 500 persons attended the affair which was a dinner-dance. Capt. Flannery was presented with a chime clock by his former fellow lieutenants, a wrist watch from the officers of the Lieutenants Association and to Mrs. Flannery the dinner committee gave a bracelet. His official and personal career were lauded by his superiors.

WM. J. DALY.

DIPLOMA OF ESPECIAL MERIT AWARDED TO "FIRE ENGINEERING"

International Fire Congress Honors This Journal With Special Award—The Letter of Transmittal

AN unusual and signal honor has been conferred upon FIRE ENGINEERING by the award of a Diploma of Especial Merit to it by the President General of the Contest Jury of the "Concorso Pompieristico Internazionale,"—the International Fire

Diploma of Especial Merit Awarded to "Fire Engineering" by the International Fire Congress Held at Turin, Italy

Congress recently held at Turin, Italy. The diploma is shown herewith.

Accompanying this award was a letter of transmittal of which the following is a translation:

"To the Management of the Journal, FIRE ENGINEERING:

"I am pleased to inform you that the President General of the Contest Jury has assigned to your good journal the following prize:

"'Diploma of Especial Merit

for the value and importance of a publication that carries useful contributions and studies of special technical problems and for enlightening through news items and favorable discussions a most intimate collaboration with builders of fire apparatus and fire departments.

"'COMMANDANTE ING. CAV. GIULIO VITERBI,
"'Il Direttore del Concorso.'"

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Getting a Heavy Stream

To the Editor:

Being a regular subscriber to FIRE ENGINEERING, I would appreciate very much an answer to the following question which was asked at a recent examination held in this city.

The members of this company have had several arguments as to the proper procedure as specified in this question, and we will therefore appreciate a reply at your earliest convenience.

Question: An engine or hydrant is located 500 feet from a fire and a heavy stream is needed. Explain in detail how you would proceed to get it.

M. J. G.

Answer: The following would be the common procedure in securing a heavy stream under the conditions outlined:

Stretch in two lines of 2½ inch hose from engine to a deluge set to which a 1½ inch (or other size desired) nozzle is attached.

With such a layout, an engine pressure of approximately 150 pounds will give a nozzle pressure of 60 pounds which may be considered satisfactory for 1½ inch stream.

For nozzles of 1½ inch and larger in diameter, nozzle pressures of from 60 to 90 pounds are considered satisfactory.

In the event that a larger nozzle is to be employed, and the same or higher pressure maintained at the nozzle, two 3-inch lines of hose may be stretched to a deluge set. This would cut down the friction loss and would not necessitate running the engine at a higher pressure to maintain the nozzle pressure desired.

Massachusetts Promotional Questions

To the Editor:

I would appreciate having you answer the following questions in your Question and Answer Department, question being presented at a recent examination for lieutenant in Massachusetts.

Thankfully yours,

NAEB.

(NOTE—*Herewith continuation of these questions and the answers from the issue of December 12.*—EDITOR.)

Question: 4. What particular fire hazards are to be found in (a) wood-working factories; (b) printing plants? What precautions are necessary when fighting fires in such places?

5. Explain the nature and cause of hot air explosions, and state how they may in a measure be prevented.

6. (a) Under what conditions may a building in which is located a garage be used in part as a dwelling? (b) What conditions require one or more doors opening outward in the rear wall of a garage, and where in the wall must they be located?

7. At a fire in a cellar in a building of second class construction, you are in command of a truck company and are ordered to run a line of hose and use a cellar pipe through the first floor. Describe in detail how you would go to work and get a stream of water on the fire.

8. Assume a fire under considerable headway in a cellar of a large grocery store located in a block of four-story buildings with tenements overhead. Upon your arrival at 10 p. m. in charge of a combination truck and chemical company you find the fire has extended by the cellar stairway to the rear part of the store and is threatening the tenements above. Your superior officers are engaged at another fire and you are temporarily in charge of this fire and have at your command in addition to your own, an engine company and one hose company.

State in detail what orders you would give and how you would handle the situation until relieved by a superior officer.

Answer 4. The fire hazards in connection with the wood-working establishment may be listed as follows: Wood dust on rafters, walls and beams; shavings and sawdust under machines, under work benches and in corners; rubbish accumulated at these points; shaft hangers covered with a mixture of grease and wood dust; woodstock carelessly stored both as to location and manner of storing; improper protection of smokestacks of boiler plant and wood waste incinerator in which sawdust and shavings are burned and which are improperly covered with spark arresters. The large open areas, the presence of great quantities of combustible materials and the vertical passageways through the building all mean rapid spread of fire. Unless motors are properly covered, there is danger of wood dust collecting around the brushes and causing a fire.

Where manufacturing of small wooden articles is done, additional hazards might include: Improper heating of glue pots with open flames; improper or imperfect lighting system; imperfect heating system; improperly protected kilns; presence of volatile inflammables used in connection with shellacing, varnishing or lacquering; presence of electrical machinery not properly housed; presence of vegetable oils used in painting and varnishing.

Where great quantities of finely powdered wood dust are produced, and where it is not properly collected, there is danger of possible dust explosion.

(b) The chief hazards in connection with printing plants are: Presence of cleaning compounds made up of inflammable volatiles; oil soaked flooring; wood type cabinets, great quantities of paper, defective glue pots with open lights; great quantities of waste paper; heavy machinery and stock; presence of oily waste; presence of inflammable inks; lead melting furnaces in connection with linotype machines and presses heated by open gas flame; gas jet drying apparatus on presses.

Precautions necessary in fighting fire in woodworking establishments are: Ventilate thoroughly; do not disturb dust on rafters or other resting places unnecessarily; use liberal quantities of water to kill the intense heat usually created by such fires; cover vertical passageways and unprotected openings, of which there are apt to be quite a number; if inflammable volatiles are used, such as paint, varnish, etc., keep streams away from open conatiners filled with such; make sure that plenty of apparatus is on hand for handling this type of fast spreading fire. Other points which deserve attention are: Alertness to guard against dust explosions; guarding against spread of fire through vertical shafts; collapse of floor; communication of fire to wood stock room.

Precautions necessary when operating at a printing plant fire include: Be on the elert for weakening of floors which might result in collapse due to heavy paper and heavy machinery thereon; proper drainage of floors to prevent unnecessary absorption of water by the paper stock which might result in overweighting of floors; or swelling of paper tightly packed in, and displacement of walls or floor supports thereby. Protection against explosion of inflammable vapors from cleaning compounds employed.

Answer 5. The so-called hot air explosion (commonly known as back-draught) is the result of sudden combustion of inflammable vapors and creates a backward rush of air through doors, windows or other openings in a building, which may be

sufficiently severe to blow men off fire escapes or ladders or even blow them from doors. Frequently doors and windows are blown out by "hot air explosions" or back draughts. Probably the most plausible explanation of back draughts is as follows: At a fire which had been burning for some time and which is fairly well closed in, the larger part of the available oxygen will have been burned up. This tends to cause the fire to smoulder and throw off heavy vapors and smoke, the vapors in many cases being highly inflammable.

When a door or window of a room is subsequently opened up at a fire of this sort and fresh air finds its way to the fire, as soon as it reaches the fire it supplies the needed oxygen to cause combustion and instantly the combustible gases in the building are ignited. The result is exactly the same as igniting combustible gases in an automobile cylinder where the gases expand and exert tremendous force.

Precisely the same thing happens in the case of buildings filled with combustible gases and which are ignited after being supplied with air. The gas flashes instantly and creates a pressure which relieves itself by passing through open doors or windows. If the openings are not sufficient to relieve the pressure then doors or windows may be blown out.

Back drafts are hard to avoid and there is no positive precaution against them. Probably the best move to prevent back drafts and which should work in most cases is to provide plenty of ventilation above the fire, preferably in the roof so that the gases can rise and pass off, and then when opening up for operation several doors and windows should be opened at the same time so that in the event of an explosion there would be plenty of passageway for the gasses to free themselves and relieve the pressure.

Answer 6. (a) A building in which is located a garage containing not more than two motor vehicles, which are the property of the applicant or his immediate family and which are not let out for hire, may be used in part as a dwelling, if the portion so used is not located in a building more than 2½ stories in height, is entirely separated from the garage by unpierced fire-protected walls and ceilings with concrete floor, have a separate entrance from the outside air, and have all windows in the garage stationary or automatic closing fire windows; but such parts shall only be occupied as a dwelling by the applicant or his employee.

(b) Every garage from 50 to 75 feet in depth must have one door, opening outward, in the rear outside wall of the ground floor, opposite the main entrance, leading directly to the outer air, for use in case of fire, and every garage of more than 75 feet in depth shall have two such doors in the rear outside wall, opposite the main entrance, located equidistant in the said wall.

Answer 7. Stretch in single line of 2½ inch hose and connect to cellar pipe. Cut hole through floor about 10 inches square. After the cellar pipe has been connected to the hose, insert the vertical section down through the hole, making sure that the cross bar is in proper position (where Baker type of cellar pipe is employed) and then start water. Manipulate the handle controlling nozzle so as to keep stream sweeping around; also keep raising and lowering the stream in conjunction with this movement. Keeping the nozzle pointed upward as far as possible, even if the stream is kept sweeping around, will reach fire only within a comparatively small area near the hole. Furthermore, exposed floor beams may pocket the stream, preventing proper deflection. The greater body of fire may be among boxes, barrels or other piled up material away from beneath the hole. The necessity for not only keeping the stream sweeping around but also raising and lowering it is thus apparent. After effective work has been accomplished in one hole, shift the cellar pipe to another hole, below where the fire may still be raging.

Answer 8. If fire has involved the entire basement of the large grocery store, or is threatening to involve it, immediate transmission of a second alarm would be justified.

Assignment of apparatus on hand would be as follows: Order first engine company to stretch in two lines of hose at once, through the front entrance, one to cover the stairway leading to the basement at the rear of the store and the other to kill whatever fire is burning on the first floor.

Order one member of truck company to go to roof at once and ventilate over stairwell, and order balance of members of this company to clear the building of occupants. No mention is made of the front stairway being involved, so it is assumed that this is still intact. On the other hand, should persons be imprisoned on the various floors by fire entering and rising in the stairwells, then it will be necessary to get ladders to the various fire escapes at once to get the people out by this means. Ladders should be placed at front and rear of building, depending upon the ladder equipment available on the combination truck.

Ventilating the stairwell will clear away the smoke and permit the members of truck company to escort the occupants to safety.

Have hose company, with assistance of members of engine company, or chemical company available, stretch in two lines at once from the nearest available hydrant, if both of these lines are needed to hold the fire at the rear of the store, they should be employed for that purpose. On the other hand, if one of them, with the assistance of the lines from the engine company can hold the fire at the rear, then the second line from the hose company should be stretched and put in operation with a cellar pipe near the center of the store floor.

The biggest problem here is getting the people out of the building, and at 10 o'clock at night the building is likely to be well filled.

After the removal of occupants has been accomplished, members of truck company assigned to this work should immediately inspect basements on both sides of the fire building to make sure that fire is not extending through.

Upon the arrival of additional apparatus, or the release of some of the lines already in operation for other work, attention should be directed to the cellar and to front and rear entrances. Use additional cellar pipes if warranted.

Four Persons Die in Mysterious Fire

A telephone alarm brought Engine No. 3 and Truck No. 2 to a dwelling house fire in Elmira, N. Y., in which four persons lost their lives. When the companies arrived, both floors were on fire. The engine company arrived first.

The lifeless remains of two women and two men were found in a first floor bedroom directly back of that marked in the photograph. Evidence of the free use of intoxicants were found.

It is believed that the fire was due to defective wiring as an electric wire was directly over a hot air pipe from the furnace,

Damaged Home in Which Four Persons Lost Their Lives

between the second floor boards and the metal ceiling of the first floor. Neighbors were awakened by three distinct explosions. The rooms in which the bodies were found, and the kitchen in the rear of the house showed evidence of a flash fire.

Several theories were advanced. One was that the people had been drinking and did not notice the presence of coal gas fumes until too late and the fire from the wiring ignited the gas and caused the explosion. The coroner stated that three died from asphyxiation and the fourth from the concussion of an explosion. The incident remains a mystery.

ARTHUR W. ESPEY.

Rye, N. Y., to Buy Aerial Truck—Rye, N. Y., will purchase a Seagrave aerial ladder at a cost of about $15,000.

Barbourville, Ky., to Have Department—An attempt is being made to organize a fire department in Barbourville, Ky.

Oxford, Ia., to Have Rural Unit—A rural fire-fighting unit will be placed in service in Oxford, Ia., on January 1. Shares have been sold to community residents.

Pumper Delivered to Decatur, Ill.—A Seagrave pumper has been delivered to Decatur, Ill. It has passed the Underwriters' tests.

Santa Barbara to Erect New Fire House—A site has been purchased for the erection of a new fire station in Santa Barbara, Cal., for protection of the upper east side.

History and Evolution of Fire Fighting

Use of Leather Riveted Hose—The First Chemical Apparatus—Continued from December 12 Issue

By FRED SHEPPERD, Managing Editor of FIRE ENGINEERING *

FIG. 8 shows the New York built engine. The pump cylinders were arranged and worked precisely as the Newsham engine. They were 6½ inches in diameter, and the pistons had a stroke of 9 inches. Previous to the formation of hose companies, each engine was provided with a reel of hose. This, when not in use, was covered by a case of varnished cloth or leather. The stream was invariably taken from the top of the air chamber.

Leather Hose

The most valuable contribution of American mechanics to the means of extinguishing fire was the riveted hose, invented by Sellers and Pennock of Philadelphia. This hose was made of stripped leather riveted along the seam. Some of our present day fire officers of the older school may well recall having seen this hose in service. It was fitted, as with present day hose, with brass couplings.

Chemical Apparatus

The soda and acid chemical extinguisher was first developed in England about 1816. The early models were

Fig. 8—An Early New York City Fire Engine

very crude, and it was many years before they finally were adopted seriously by the fire forces. Competing with the chemical extinguisher was the compressed air extinguisher wherein water was maintained beneath a cushion of air at high pressure. By opening a valve the water was forced from the extinguisher.

But the soda and acid machines after being brought to a point of perfection where they proved satisfactory, gradually increased in use until by 1872 it was estimated that 100,000 of these machines were employed in Great Britain alone.

They were probably first used in this country about 1860, although the exact date is somewhat uncertain.

They had not gained the full confidence of the public as late as 1872, as shown by the following dialogue between an investigation committee and Chief Damrell, of the Boston Fire Department, and one of the organizers of the International Association of Fire Chiefs, on the great Boston fire which had occurred shortly before.

This dialogue is taken from a book entitled "Protection Against Fire" by Joseph Bird, published 1873.

Question. "What do you think of these little hand pumps?"

Mr. Damrell. "I think in some instances they serve very well. But you must have a bucket of water with you. You have to carry a bucket of water in your hand. We have them in the department; we carry one on each carriage now—Mr. Bird's pumps."

Question. "I understand that they are a part of the London equipment, and are very well spoken of.

Mr. Damrell. "Yes, sir. I use, instead of them now, the Babcock Fire Extinguisher, and have three companies organized. They run to every fire. There are two men who make that a specialty. They take the extinguishers and start, and in ten seconds can get up a pressure of sixty pounds to the square inch, which will throw a stream forty feet by the power of its own effervescence; consequently we find that they are much more effectual than the hand-pumps, where you have to carry a bucket of water, as it only throws a small stream. In the case of the extinguisher, you have only to hold it; the power is behind it; it is automatic."

Then Mr. Bird added: "In these few lines he (Chief Damrell) discards the pumps, approves the extinguisher, and describes the manner of using each kind. "We have them in the department." "We carry one on each carriage now." Does Mr. Damrell carry one in his carriage? Is one carried on either of the steam fire engines? Is one taken to the fire on the hook and ladder carriage? Or on the hose carriage? I venture to say they are not carried on either of them. If they were, as there are only three extinguisher wagons for the whole city, and as there are twenty-one steamers, ten hose-carriages, and seven hook and ladder companies, the small engines would put out nine of ten of the fires which the extinguishers now do before these last arrived at the fire.

"But, 'you have to carry a bucket of water in your hand.' This tremendous objection is stated three times. It possesses Mr. Damrell like a nightmare. Just imagine Mr. Carter, with his poor sciatic leg standing at the head of Main Street with a bucket of water in one hand and a little engine in the other, and see him, when the telegraph strikes an alarm, starting off with all his might, hippity, hoppity, almost two miles an hour, for a fire which may be one or five miles away. No, Mr. Damrell, Mr. Carter would do no such thing; but it would be a far better method than that you have taken of using extinguishers. Mr. Damrell has described his manner of using them, and I venture to say that, under his introduction, they have never put out a fire. Certainly no such fact has ever found a place in the newspapers of the day. And I say also that Mr. Damrell's protection of the city of Boston—that is, the putting out of its small fires with three wagon-loads of extinguishers, shows that he is willing to sacrifice the safety of the city."

It is unnecessary to add that since that time the soda and acid extinguisher has not only proven itself in small units, but has found wide usage in larger form as chemical tanks on motor fire apparatus.

So much for the soda and acid extinguisher.

(*To be continued*)

* From a paper read before the annual convention of the Pacific Coast Association of Fire Chiefs at Sacramento, Cal., Oct. 1-6, 1928.

LUMBER YARD FIRE SPREADS TO ADJOINING COAL POCKETS

Fireboats Sent from Manhattan to Fight Brooklyn Fire—Fifty Pieces of Fire Apparatus Called Out by Five Alarms—Loss Heavy

AIDED by a strong northwest wind, a fire that broke out in the Forest Box and Lumber Co. plant in Brooklyn, N. Y., spread to the A. J. & J. J. McCullom coal pockets that were adjacent. The fire came at a time when the department was fighting a number of small fires in the borough, and aid had to be summoned from both Manhattan and Queens boroughs. Fifty fire companies were on duty.

The fire started in the lumber yard at four o'clock in the afternoon. Smoke and flames could be seen from other parts of

Fireboats Fighting the Coal Pocket Fire in Brooklyn

Brooklyn, Bronx and New York. Thousands gathered on the shore of Newtown Creek to watch the fire.

A four-masted lumber schooner, just in with a load of lumber, caught fire. It was towed out to mid-stream by the fireboat Hewitt. The riggings and sails were aflame. The fire was believed to have been out at eight o'clock, but two hours later it was necessary to put in another call for the fireboat as the blaze revived.

Soon after the fire broke out in the lumber yard, an explosion occurred in the molding room and flames leaped across a narrow alley to the coal pockets. The company had just received

Firemen Battling Flames and Completely Filled Coal Bins

its winter supply and the bins were full. The wooden frame of the structure burst into flame.

The Fifty-second Battalion, consisting of five companies under Deputy Chief Davin, responded on the first alarm. A second and third call were sent in quick succession. The alarms brought out ambulances from the hospital on Welfare Island, fire and police rescue squads, the Edison emergency wagon, Dr. Harry Archer's special fire department ambulance, one hundred members of the police reserve, and John J. Dorman, fire commissioner. Virtually every piece of apparatus was called out of the Greenpoint, Williamsburg and Bedford sections of Brooklyn. Six engine companies were rushed from Manhattan by way of the Williamsburg and Queensborough bridges.

The weather was very cold. At nine p. m. the men on duty were relieved by a fresh crew.

Thomas Brophy, fire marshal, who started investigations, reported that the fire evidently had started in the molding and trim room of the lumber plant. The mill was a one-story building.

Damage has been estimated at $500,000.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

Week Ending December 15

SPOKANE, WASH.—Property of Armour & Co. damaged..... 70
LEAVENWORTH, KANS.—Two business bldgs. damaged..... 50
HARTSVILLE, S. C.—Several warehouses destroyed..... 200
JOLIET, ILL.—Factory, F. E. Schundler Magnesite Co..... 250
SHAMOKIN, PA.—Four frame buildings destroyed..... 80
WILLITS, CALIF.—High school bldg. destroyed..... 45
BATTLE CREEK, MICH.—Two business bldgs. damaged..... 45
FORT FAIRFIELD, ME.—Plymouth Hotel destroyed..... 35
NEWFOUNDLAND, N. J.—Ed. Ball bakery and residence..... 25
CAMDEN, N. J.—J. M. Eichmann bldg. Westfield Ave..... 55
OMAHA, NEBR.—Residence of A. F. Mullen destroyed..... 30
FREEPORT, N. Y.—Business property, S. Main St..... 125
NEW KENSINGTON, PA.—Bldgs. on Braeburn Farm..... 45
LEWISTON, IDAHO.—Alexander dept. store..... 300
BROOKLINE, MASS.—Leyden Congregational Church..... 45
AURORA, ILL.—A. J. Leach & Co.'s store..... 80
GRAFTON, ILL.—Business property destroyed..... 30
GASTON, IND.—Garage of Lawson Motor Company..... 25
WALLOWA, ORE.—Northern Hotel and adj. property..... 60
SHENANDOAH, IOWA.—Four bldgs. in 'automobile row'..... 70
SMITHFIELD, N. C.—American Dollar Store destroyed..... 25
LIMA, OHIO.—American Bank Bldg. damaged..... 80
PHILADELPHIA, PA.—Private garages of E. Miller..... 25
GREAT FALLS, MONT.—Stanton Bank Bldg. destroyed..... 165
OAKHURST, N. J.—Stock barn of S. A. Wertheim, Deal Rd.. 65
PHILADELPHIA, PA.—Shop of Schneider, Bowman Co..... 80
OPELOUSAS, LA.—Bldg. of St. Landry Clarion..... 25
CHICAGO, ILL.—Bldg. occupied by Schuberth Plating Co..... 125
LAS DU FLAMBEAU, WIS.—Store of E. Oldenberg..... 35
MALINE, IOWA.—Carlson Bros. laundry destroyed..... 30

Week Ending December 21

MAXTON, N. C.—Plant of Maxton Mfg. Co. damaged..... 35
LAUREL, MISS.—Ferrell Bldg. damaged..... 200
CEDARS, MISS.—Plant of Hardwood Products Co..... 40
WAYNESBORO, GA.—Goldberg Dept. store and adj. property. 40
BELFAST, ME.—Several stores and dwellings..... 25
SUFFOLK, VA.—Whse. of Farmers Mfg. Co..... 30
EVANSVILLE, IND.—Plant of Globe-Boss-World Furniture Co. 300
LAKOTA, N. DAK.—Headquarters of Wagness Auto Co..... 30
WHITE BEAR, MINN.—White Bear Armory..... 25
SAUK CENTER, MINN.—Cottage at State Industrial School.. 25
CURWENSVILLE, PA.—Plant of Penna. Hide & Leather Co.. 800
SYRACUSE, N. Y.—North State St. property..... 40
NEW BRITAIN, CONN.—Whse. of Hyman Gitlitz..... 40
BOODY, ILL.—Farmers' Cooperative elevator..... 25
BELMOND, IOWA.—Whse. of American Beet Sugar Corp..... 800
LUDINGTON, MICH.—Ludington Basket factory..... 30
KENDALLVILLE, IND.—Steckley feed mill damaged..... 25
WILSON, N. Y.—Geo. Daugherty Co. whse..... 40
CRAWFORD, NEBR.—T. J. Toomey mills destroyed..... 45
INDIANAPOLIS, IND.—Plant of Knefler Bates Mfg. Co..... 165
HAZARD, KY.—Combs Hotel destroyed..... 400
ANN HARBOR, MICH.—Arcade Theater and adj. property.... 80
SHARON, PA.—DeForest Bldg. and adj. bldgs..... 250
ERLANGER, KY.—Barn on Polk Laffon's farm..... 100
BUFFALO, N. Y.—La Salle Apts. Chippewa St..... 40
TONKAWA, OKLA.—Whse. of Continental Supply Co..... 80
LIMA, OHIO.—Holland Blocks destroyed..... 600
SHAMOKIN, PA.—Four business bldgs. destroyed..... 80
SHAMOKIN, PA.—Store of Colonial Colleries Co..... 35
WOBURN, MASS.—Plant of Peterson Degreasing Co..... 35
ST. LOUIS, MO.—Unfinished apt. bldg. of S. Brown..... 30
SAN FRANCISCO, CALIF.—Whse. of Pacific Wood Products Co. 165
CHICAGO, ILL.—Bldg. at 341 N. Crawford Ave..... 75
E. ST. LOUIS, MO.—Turner Bldg. damaged..... 65

Chief Howard L. Stanton, Retired

Howard L. Stanton, chief of the fire department of Norwich, Conn., for twenty-eight years and sixty years a member of the fire service, has retired, effective July 1. He has been given a six months' leave of absence from January 1, so he will be away from his office from the first of the year.

He is a native and life-long resident of Norwich, and was born July 17, 1854.

Chief Stanton entered the employ of a manufacturing company at the age of twelve and he was with that company for nine years. He became an expert toolmaker, and at the time he became chief of the department he was foreman for a manufacturer of envelope machinery.

His interest in fire department matters was always keen even as a lad, and he would gladly peel potatoes for chowders held the fire station so that he could enjoy the companionship of the firemen. He joined the West Side company on April 18, 1872. A year later he became second assistant foreman and in August, 1873, he became stoker for an engine company.

In September, 1879, he reorganized a disbanded company, at the request of the chief. Mr. Stanton was elected captain. He was made second assistant chief in July, 1881. He resigned from this office so that he could give his entire time to the machinery company where he was employed.

When the chief at that time retired, friends induced him, much against his will, to accept the position as permanent chief. When Chief Stanton assumed his office, the city was minus both a water works and a fire alarm system.

You Can't Wash It Off!

Once sulphuric acid has reached the jacket of your fire hose, the hose jacket is damaged. It's next to useless to try and wash the acid off.

Sulphuric acid, even when diluted, has a speedy and powerful effect on cotton fabric such as goes into the makeup of the hose jacket. Even dilute acid will turn the cotton into powder, and make the hose worthless for further use. That a whole lot more hose than usually believed is damaged by sulphuric acid may be learned from the records of fire hose manufacturing companies. These companies are frequently called upon to replace hose, which is claimed to be defective by the purchaser. A test of the "defective" portion, often shows that the hose has been in contact with acid. It is not necessary for the manufacturer to be told that hose has been damaged by acid, for the chemist's test to detect the presence of acidity is simple, and positive. If there is a trace of acid on the hose jacket, it shows up instantly in the test.

Many departments disclaim having ever spattered the hose with acid, or caused it to come in contact with such. But the fact that no one remembers having seen the hose exposed to acid is no proof that it has not been so exposed. In filling extinguishers, if acid is spilled on the station floor, on the sidewalk, or at other points where extinguishers are refilled, and if hose is subsequently dragged through over the spots where acid is spilled, the chances of the hose jacket being damaged are great, indeed. Spilled acid may have apparently dried up, but upon being wetted produces a solution which is highly destructive to hose jackets which come in contact with it.

The only safe way to take care of your hose, is to make absolutely sure that it is kept away from sulphuric acid, or all traces of it. If extinguishers are filled about the station, make it a point to fill them only at one place in the station, and not permit them to be recharged at points where hose subsequently is drawn over, or stacked. And make doubly sure that when tanks on apparatus are being recharged, no acid spills over on to the hose stored in the body of the truck.

Fire Extinguisher Heater on Market

As a preventative against frozen fire hydrants, James M. Castle, Inc., Philadelphia, are marketing a thermostatically controlled electrically heated unit, termed Firex.

There are two heatings units imbedded in porcelain. The heating elements are guaranteed for five years. The size of the unit is such that an extinguisher can fit over it when in an upright normal position. It fits into the recess provided by the lip on the bottom of the extinguisher.

The heater operates from the house service electric system, and only when the temperature of the room drops below forty degrees Fahrenheit. When the temperature around the thermostat is slightly above this point, the heater will cease operating. The heating element does not have a glow and it is therefore safe from flammable vapor dangers.

The amount of electricity required for the operation of this device depends upon the material used in the construction of the extinguisher. The heat radiation is dependent on whether or not the metal is polished and so forth. Therefore, it is impossible to tell how much electricity will be required for heating.

Mine Safety Opens Pacific Office

The Mine Safety Appliances Company, Pittsburgh, Pa., announces the opening of a Pacific Coast Branch, including offices and warehouse, at 318 East Third Street, Los Angeles, Cal. The branch is in charge of H. E. Munn, who received his early safety training with the United States Bureau of Mines and later was associated with the Jacklin metal mining interests. Mr. Munn is assisted by C. E. Gault, also formerly associated with the United States Bureau of Mines.

In addition to the Pacific Coast Branch, the western organization of this company includes the following district representatives: J. C. Calnon, El Paso, Texas; T. R. Jones, Denver, Colorado; V. O. Murray, Salt Lake City, Utah and H. H. Sanderson, Seattle, Washington.

Fireman Killed in Apparatus Crash

One fireman in Philadelphia was killed and several were injured when an engine company on the way to answer an alarm crashed into an empty passenger bus during the evening rush hour.

The accident occurred only one block from fire headquarters. According to police investigators, a sudden change of the automatic traffic lights at the street intersection where the collision occurred, is responsible for the crash.

Firemen were catapulted from the truck as street crowds looked on. As the apparatus plunged into the front of a dwelling it scattered the sulphuric acid contained in the chemical tanks. The bus crashed into the wall of a nearby high school.

EDWARD H. SPRANGLES.

Prison-Firemen Overcome by Smoke

Prompt work of fire companies in the prison at Ossining, N. Y., checked a blaze that started in the Sing Sing factory building. Five firemen, all prisoners, were overcome by the smoke.

The fire started as the 1,600 prisoners who were enjoying their Sunday afternoon freedom in the prison yards, were waiting to be marched back into the buildings. As soon as the fire was detected by a keeper, the prison department consisting of twenty-four men was called out.

Warden Lewis said, "Among the 1,600 men there was no disturbance. They all wanted to help the fire company, but of course not many of them could. There was considerable damage to the building and some to the contents, but with the wind as high as it was, almost anything could have happened.

The building, with the manufactured goods and raw material, is valued at $400,000 and the estimated damage has been figured at $10,000.

Apparatus Used by London Fire Brigade

Above are some of the units in use by the London, England, Fire Brigade. At this station, the two pieces of apparatus in the foreground are 500-gallon pumpers equipped with sixty-foot wheeled escapes, and the third unit is an 85-foot turntable ladder. All the apparatus illustrated are products of Dennis Brothers, Ltd.

NEW STANDPIPE RULES ADOPTED FOR THE CITY OF NEW YORK

Board of Standards and Appeals Formulates New Regulations—To Be Published in Their Entirety in These Columns

HEREWITH is continued from the November 28 issue the new "Standpipe-Fire Line Rules" of New York City. The original rules were adopted by the Board of Standards and Appeals of that city on June 22, 1922, were amended July 20, 1923, and again on May 18, 1928. The finally adopted form, as reproduced herewith, were adopted July 20, 1928. Through the courtesy of Chairman William E. Walsh, of the Board, FIRE ENGINEERING is enabled to publish the entire new rules serially.

These new rules are formulated largely through the efforts of Peter J. Maher, Fire Prevention Inspector attached to the Division of Fire Appliances of the New York Fire Department.

RULE 41. ARRANGEMENT AND SUPPLY OF FIRE PUMPS.—Fire pumps shall be connected to the standpipe systems and have a capacity of 750 gallons of water per minute at a pressure of from 50 to 80 lbs. at uppermost hose outlet, fed from such pumps. Fire pumps shall draw from steel or reinforced concrete suction tanks. For the purpose of testing fire pumps a 4 in. diameter branch shall be taken from the discharge line at the pump side of the check valve and run to the suction tank over the side or through the side above the overflow level. From this branch there shall be taken a 4 in. line with an approved type pressure relief valve, extending to the tank in a manner similar to that of the 4 in. test line. In the 4 in. test line between the 4 in. relief branch and the tank there shall be placed an O. S. & Y. gate valve, which shall be kept closed except during a test of the fire pump. In the line from the fire pump to the standpipe risers and beyond the test branch there shall be placed an approved type check valve in a horizontal position and also an O. S. & Y. gate valve, the latter to be open except when the fire pump is undergoing test. A pressure gauge shall be provided and connected to the discharge line of the pump.

The pining connecting discharge from fire pumps shall be of same diameter as the main riser.

RULE 42. NUMBER AND LOCATION OF FIRE PUMPS.

SCHEDULE A

Height from Uppermost Hose Outlet to Grade *	Total No. of Pumps Required	Approximate Location of Pumps			
		1st Pump	2d Pump Above level of First Pump	3d Pump Above level of First Pump	4th Pump Above level of First Pump
250′ to 400′	1	Below grade level			
401′ to 500′	2	Below grade level	300′ to 250′		
501′ to 600′	2	Below grade level	250′ to 300′		
601′ to 700′	3	Below grade level	200′ to 250′	100′ to 500′	
701′ to 800′	3	Below grade level	250′ to 300′	500′ to 600′	
801′ to 900′	4	Below grade level	200′ to 250′	100′ to 500′	600′ to 750′
901′ to 1000′	4	Below grade level	250′	500′	750′

* The uppermost hose outlet shall not include pent house outlet.

Rule 43. FIRE PUMPS IN BUILDINGS EXCEEDING 1,000 FEET.—All buildings exceeding 1,000 feet from grade level to uppermost hose outlet shall be provided with a fire pump of every 250 feet of elevation above the centre line of the lowest pump.

Rule 44. TANK CAPACITIES.—Suction tanks supplying the first or lowest pump shall contain not less than 10,000 gallons reserved for fire pump. Intermediate tanks and uppermost supply tanks for buildings between 250 and 400 ft. as described in above schedule shall contain not less than 5,000 gallons reserved for fire pump. Uppermost supply tanks on all other buildings shall contain not less than 3,500 gallons reserve for standpipe fire line. Suction tanks shall be of the open type.

Rule 45. TANK STRAINERS.—All supply tanks shall be provided with bronze strainers at pump and riser intake lines.

Rule 46. CENTRIFUGAL FIRE PUMPS.—Fire pumps installed under these rules shall have a capacity of 750 G. P. M. and shall be of the multi-stage motor driven Centrifugal type designated, constructed and installed to render the highest possible efficient and reliable fire service.

The pump shall be located in a room of fireproof construction, properly ventilated, lighted and drained, enclosed in eight (8) inch brick or concrete walls with approved fire doors at openings and with fireproof floor and ceiling construction. If located in the lowest story of the building, the pump shall be placed on a foundation not less than one (1) with safe egress for the attendant.
foot in height. The pump room shall be readily accessible

The pumping equipment shall be adaptable for heavy duty service having all parts of ample strength with liberal water passage and all working parts exposed to corrosion of phosphor bronze.

The pumps shall be fitted with fire fittings consisting of manifold and three (3) approved 2½ in. hose valves with Standard Fire Department male threads. Fire pumps shall take suction supply under a head of water and in no case shall there b eless than six (6) feet between water level in tank and centre line of pump.

The pump specifications shall be within the uniform requirements of "The National Standard" as adopted by the following associations:

Associated Factory Mutual Companies.

National Board of Fire Underwriters.

or as approved by the Board of Standards and Appeals.

Fire pumps to be designed to operate at not less than five (5) pre-determined speeds to give five (5) pre-determined pressures which will insure a maximum pressure of 80 lbs. and a minimum pressure of 50 lbs. throughout the building.

Fire pump equipment shall be so designed that it will operate normally at least five (5) speeds to provide a minimum of 50 lbs. pressure, and where more than one pump is required it shall be capable of pumping to the level of the next highest pump station in case of breakdown of intermediate pumping unit.

To provide for this standby service the fire pump shall run at nine (9) pre-determined speeds, namely, five (5) for continuous service and four (4) for standby service.

RULE 47. GENERAL SPECIFICATIONS.—Pumping equipment shall be free from defects in design, workmanship and material and shall give proper and continuous operation under the conditions of service specified and shall be subject to approval of the Board of Standards and Appeals.

Materials entering into construction of this equipment shall be the best quality of their respective kinds and all parts shall be amply proportioned so as to be adaptable for heavy duty service.

CASING.—Casing shall be of close grained cast iron and divided horizontally, and having suction and discharge connections in the lower half, so that the top casing can be removed without breaking water connections. Casing shall have in addition to flange bolts, additional heavy bolts inside of flange to prevent leakage between stages. Casing shall be tested and guaranteed to withstand pressure 50% in excess of working pressure.

SHAFT.—Shaft shall be made of best grade nickel steel and shall be ground all over to close limits and a high finish.

IMPELLERS.—Impellers shall be of the enclosed type of best grade of phosphor bronze finished all over.

WEARING RINGS.—Shall be of phosphor bronze and of renewable labyrinth or other equal type. Impeller wearing rings shall be securely attached to impeller, and casing ring shall be securely locked in the casing.

(To be continued)

Crippen Heads Arkansas Firemen

At the semi-annual convention of the Northwest Arkansas Firemen's Association held in Fayetteville., E. W. Crippen, assistant chief of Fayetteville was elected president.

There were many interesting talks at the convention. Assistant Chief Dixon of Fort Smith spoke on proper ventilation at fires; H. S. Avery of the state fire marshal's office, on arson and the work that is done to prevent incendiary fires; H. B. Savage, chief of the state department of conservation spoke on "The Better Firemen"; Assistant Chief Dean of Fort Smith discussed the firemen's pension law.

Delegates from ten communities attended this gathering. It was voted to hold a two-day session instead of a one day meeting. A fireman's tournament was held during the afternoon of this convention.

Gossiping Women Hold Up Fire Alarm—When a grocery boy in Rahway, N. J., attempted to phone in a fire alarm, he found the line used by two gossiping women who refused to yield their priority rights to the telephone. The alarm was later sent in from a nearby fire alarm box.

Know Your Standpipe Systems

(*Continued from page* 1184)

of skyscraper construction, when laws governing their erection were not so stringent as the laws of today.

Tendency to Oppose Precautionary Methods

We walk along the streets or avenues and on observing a skyscraper building, note the presence of a large sign on the structure upon which is printed the words "This building is strictly fireproof"—and is it not astonishing to think of the great number of owners and tenants in these buildings, who are obscessed with the idea that there can be no fire in the building for the reason that it is reputed to be fire resistive. They give no thought to the fire hazard danger, that is contained in the great quantities of combustible contents stored therein, and as a rule they are prone to oppose to their utmost power, the recommendations of men fully qualified by experience, who have recommended or ordered the installation of such fire extinguishing or fire prevention equipment, that is so essential for safeguarding the lives of the large numbers of persons who may be in the building, or for the protection of the community at large against the fire hazard danger.

Life and Property Hazards in Skyscrapers

Skyscraper buildings in some cities, constructed under stringent laws, that provide what is considered every element of safety against the fire hazard, have been erected by the thousands, but no man regardless of what his experience may have been, can say positively that life hazard does not exist in the tall commercial structures which are beehives of humanity during business hours. This danger varies in degree according to the construction of the building and its occupancies.

It may be safely concluded that in a skyscraper structure, where the floor areas are divided into small units by fireproof partitions, there is less danger than where there are large open floor areas, which contain large quantities of combustible material. And again we can say that where a properly constructed fire tower (a tower in fact, not in name) exists there would be a greater degree of safety than is provided by interior stairways; and is not the danger of minimized in any structure where two or more properly enclosed stairways are remotely located from each other than in a building in which only one stairway is provided?

Will any man say that there is no life hazard in a commercial building ten or more stores in height, which is provided with open stairways and elevator shafts? Such a condition exists at this moment in many of them.

The Most Dangerous Condition of All

The brief references to the existence of the life hazard are made because of one condition, the most dangerous of all, and which may develop at any moment in any city. This condition may require the efforts of the department to the utmost in getting its apparatus and a standpipe into operation with sufficient volume of water that will be necessary to supply the hose streams that will be placed in operation to cope with the situation. The condition referred to is as follows:

A building two, three or more stories in height, of fair sized area, containing a large stock of combustible material, is located in close proximity to a very tall skyscraper building, which has a very large number of unprotected openings on front, rear or sides, but particularly on the sides. Fire breaks out in the low building and is fully involved in a very short space of time and radiates heat at extremely high temperature; wind and weather conditions are favorable to the quick spread of the fire to the skyscraper, and where these conditions prevail, only one conclusion can be arrived at, and that is that several floors in the skyscraper structure will be involved simultaneously.

The writer has been an eye witness on several occasions to fires where the circumstances were such as are described above. Fortunately all the fires occurred in the night, after business hours, but any man who has had any experience in fire department work, can use his imagination to estimate the possibilities to the life hazard, where these conditions prevail, particularly in that class of skyscraper structure with large open floor areas, stocked with combustible material.

Is it not possible that under the conditions specified, that the means of exit, such as stairways may be cut off by the spread of the fire before the fire department can get sufficient streams in operation to combat the condition?

Time is the great factor in an operation of this type and a fire department force, which is not thoroughly informed and instructed as to the methods that should be followed in utilizing standpipe equipment and its apparatus in conjunction therewith, will not be able to work in concert and confusion and duplication of methods are bound to result, and this implies loss of time in getting hose streams into action.

Could Fire Have Been Held?

(*Continued from page* 1187)

of work, no time was taken to locate the leak and transfer the liquid. The first evidence of fire was noted by smoke which came from the basement up the hoist shaft.

An investigation was immediately made and it was found that the linseed oil on the floor was burning, as well as the rolls of cloth in the immediate neighborhood. Telephone alarm was transmitted and one engine company (Engine Co. No. 1) and one ladder company (Ladder Co. No. 1) were despatched. Upon the arrival of the fire department, smoke had gotten so dense in the basement that the department could not enter. Just how far the fire had extended in the basement at the arrival of the apparatus is not known, but a sudden flare just as Engine Company No. 1 was getting its first line in operation indicated that the fire had reached the naphtha stored in the basement.

The officer in charge of Engine Company No. 1 immediately transmitted a first alarm bring out Engine Company No. 2 and Hose Company No. 1.

In the meantime Engine Company No. 1 was stationed at hydrant No. 2 and two lines stretched in on the ground floor, one taking the elevator shaft at the east

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Manhasset-Lakeville Receives Maxim Apparatus

Within the past two years Manhasset-Lakeville, L. I., N. Y., has received four pieces of Maxim fire apparatus. In November they ordered two 1,000-gallon pumpers and high-pressure wagon equipped with a deck gun and Fomon generators. A ladder truck was purchased August, 1927. The photograph shows the four Maxim units in service. A ladder truck has also been delivered to East Hampton, L. I.

and the other taking the stairs leading to the basement at the west.

These two lines were placed to hold the fire from rising until additional help arrived. Members of Truck Company No. 1 cleared the building of all employees.

As the balance of the first alarm assignment was rolling in, fire suddenly burst with fury up the elevator shaft which was open from the basement to the top floor. The intense heat kept the line from Engine Company No. 1 away from the shaft and all it could do was to wet around the elevator as well as wet down the ceiling and floor in the immediate vicinity of the shaft.

Engine Co. No. 2 upon arriving immediately stretched in from hydrant No. 3 to the second floor of the fire building, to cover the elevator shaft, but the fire was too fast for them and it had already gone to the upper floors. Hose Company No. 1 was placed at hydrant No. 6 and a single line stretched by ladder to the third floor. Fire was driven back to the elevator shaft on this floor, but it had apparently reached the top floor where the varnish was present in considerable quantity. Shortly after the arrival of the apparatus on the first alarm, the assistant chief who responded, sent in a second alarm and shortly afterward followed it by special call for Engine Company No. 5, Hose No. 3 and Truck Company No. 2.

The fire spread with great rapidity over the top floor, and upon the arrival of apparatus on the second alarm, the fourth floor was completely involved, with fire coming out of the skylight over the elevator shaft.

Engine Company No. 3 was placed at hydrant No. 7 and single line stretched by ladder to the top floor of the fire building. This line had considerable difficulty operating due to the intense heat and the flare which continually came out of the windows on the Broadway side. Engine No. 4 was placed at hydrant No. 4 and a single line stretched by way of ladder to the top floor of the fire building on the Elkhorn street side. Hose Company No. 3 was placed at hydrant No. 10, and a single line stretched to the ground floor of the fire building to assist the line already in operation on this floor in holding the fire from coming out of the elevator shaft and stairway.

Engine No. 5 was placed at hydrant No. 5 and a single line stretched by way of ladder to the third floor of the fire building.

Hose Company No. 3 was placed at hydrant No. 11 and a single line stretched to the second floor of the fire building near the corner of 5th Avenue on Broadway. By the time these assignments had been made and the lines were in operation, it was found that the top floor of the fire building was too far gone to save. Lines operating on the top floor were thereupon brought down to operate on the third floor. They had been operated but a short while when the officer in charge noted the dangerous condition of the wall on the Elkhorn Street side, and ordered the men to withdraw their lines from this side of the building. They had hardly done so when the roof dropped in. Other lines were thereupon backed out of the building and positions taken on the street, and two lines placed on the top of the four-story building to the east of the fire building.

In shifting one of the lines to the roof of the machine shop south of the fire building, it was discovered that a large frame shed on top of this building, used as a draughting room was well ablaze. The frame house over the elevator shaft was also afire.

In view of the fact that the employees of the machine shop had gone to the windows to watch the fire across the way, this condition was not discovered until the firemen had gone to the roof.

It was found, shortly afterwards, that fire had gotten into the cock loft of the machine shop and before lines could be shifted to head off this threat, smoke coming out of the cornices on three sides of the building indicated that the fire had gained hold in the cock loft.

Additional lines were shifted to the roof of the machine shop, and were soon getting the fire in the superstructure under way, and were opening the roof and doing effective work on the fire in the cock loft.

The truckmen cleaning up around the frame house over the elevator shaft in the machine part factory detected smoke coming from below which, upon investigation was found to be rising from the bottom of the elevator shaft. Due to the noise incidental to the fire, this information could not be communicated quickly to the officers on the street, and by the time the truck officer on the roof had gotten to the street and made an investigation the fire was already burning vigorously in the wooden framework around the elevator shaft.

From this point on the exact procedure of the department is not known. The fire, however, gained in headway until the factory engaged in manufacturing machine parts was completely involved.

When the fire was finally brought under control both the oil coat factory and the machine shop were completely destroyed. Fire was prevented from crossing any of the other streets, and even checked from spreading to a gas station across 6th Avenue.

The department did good work in preventing the further extension of the fire, in view of the fact that the wind was blowing from the northeast at about 25 miles per hour.

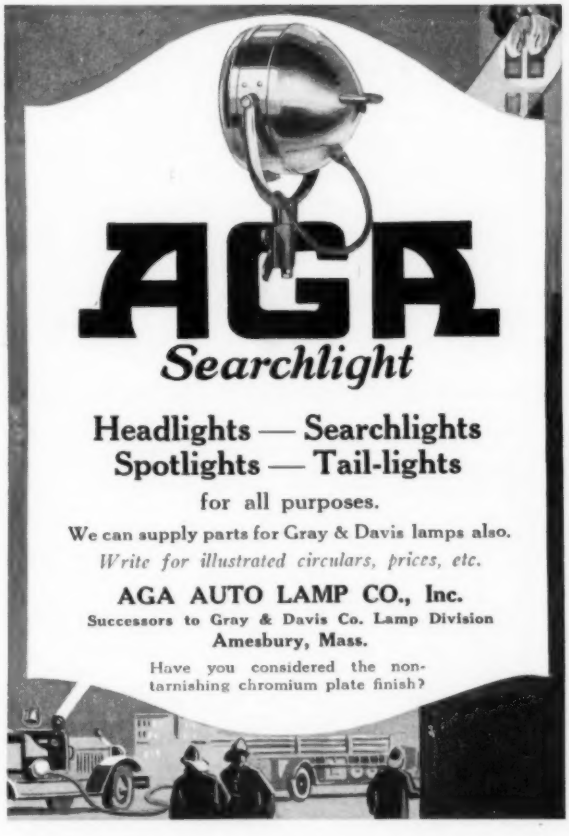
The Editor's ideas on the handling of this fire will be given in the next issue.

Seneca Raised to Surface Months After Her Fire

Blackened by fire, the Clyde liner Seneca, which sank in the spectacular $1,500,000 fire, is floating once more at her Hoboken, N. J., pier. The boat was reconditioned and the fire prevented her first voyage. The hull is an indication of the intensity of the fire.

Chief McCarthy Honored on Anniversary

Chief John W. McCarthy of Corning, N. Y., was honored by a banquet arranged to mark the completion of his twenty years service as chief. The banquet was arranged in Station No. 1. All mayors under whom Chief McCarthy served were invited as guests. The chief was presented with a beautiful traveling set by members of the department. A number of chiefs from neighboring towns were also present at the banquet and said many complimentary things about Chief McCarthy.



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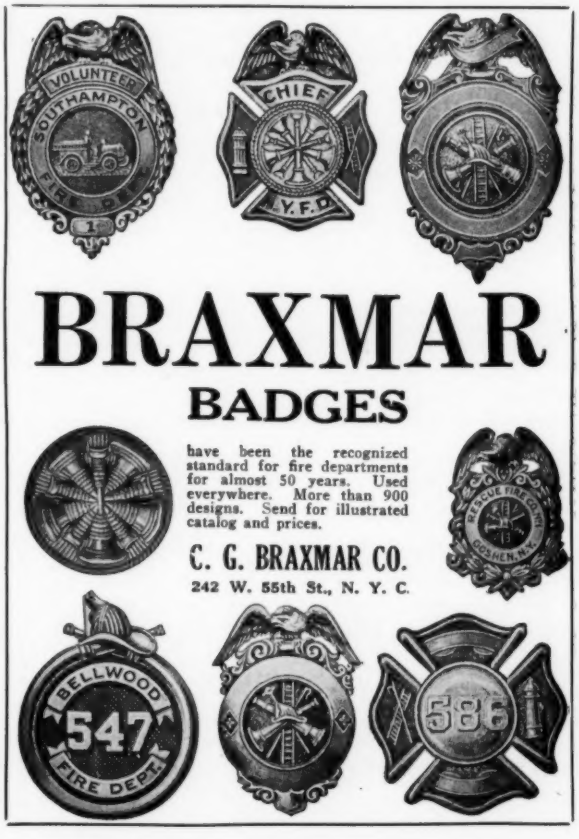

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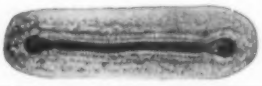

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Standpipe That Works from Street

(*Continued from page* 1188)

Description of Parts

Each standpipe is made of 4-inch or larger galvanized wrought pipe, standard, extra strong, or double extra strong according to the height of the building and the water pressures available. At its lower end the standpipe is connected to a length of brass pipe which extends downward into the cylinder of the hydraulic lift.

At each story, except the first and basement, the standpipe is provided with a long-sweep cast steel tee, with its branch outlet threaded for the attachment of the hydraulically operated valve and nozzle, and with an additional tapped outlet at one side of the fitting for the attachment of a standard hose connection and gate. The standpipe is shown in Fig. 1.

Hydraulic Lift Cylinder

The hydraulic lift cylinder is mounted at the base of each standpipe to provide a means of raising and lowering the standpipe by hydraulic pressure. It is made in two patterns. In one the standpipe is raised and lowered by pressure admitted at the bottom or top of the cylinder through outside independent connections to the water supply. In the other the standpipe is lowered by gravity and raised by pressure admitted to the under size of the piston through an inside connection at the bottom of the standpipe, a permanent vent to the atmosphere being provided by an opening through the wall of the cylinder near the top. The diameter of the cylinder is dependent on the weight of the standpipe.

The hydraulic lift cylinder consists of a cylindrical steel outer shell, a cylindrical brass inner shell or liner, a cement interlining between these shells, a cast iron base, a cast iron cover, and a piston attached to the lower end of the standpipe.

The standpipe extends through a brass bushed opening in the cover which is provided with a stuffing box. Where the water supply is at the bottom, the connection extends up through the base to the top of the cylinder. The piston is comprised of an iron casting and brass rings so formed and assembled as to provide grooves for the packing material. The hydraulic lift is shown by Fig. 2.

Nozzles and Hydraulically Operated Valves

The nozzle mounted rigidly on each standpipe at each story provides a means by which a stream of water is thrown from the riser, which by the raising and lowering of the entire standpipe and fittings, and the rotation of riser is intended to reach all parts of the building within the radius of action of the apparatus. The nozzle is connected directly to a valve mounted on a tee connected to the standpipe, and operated by water pressure transmitted to an internal cylinder and piston.

The nozzle is made of brass, is of the smooth type and may be 1⅛ or 1¼ inch in diameter. It is inclined 5 or 10 degrees upward from the horizontal.

The valve comprises two main parts, the valve proper and the operating mechanism. Each of the two parts includes a heavy bronze body casting, the two castings being secured together by six 7/16 inch bolts passing through flanges, a copper gasket being installed at the joint. The plane of the valve seat is at an angle of 45 degrees with the vertical, and the center line of the operating mechanism of the valve is at right angles to the valve seat. The valve disc is swiveled on its stem and is made of brass with a facing of vulcanized material. The valve stem passes through a stuffing box in a transverse partition within the upper body of the fitting and is connected at its upper end to a 3¼ inch piston installed in the cylinder provided by the body. Inside the cylinder but above the piston is installed a helical bronze compression spring, in contact at its lower end with the upper face of the piston, and at its upper end with the lower face of a screw cap which closes the upper end of the cylinder. The cap carries a central stud projecting downward 3 inches to limit the upward travel of the piston, valve stem and valve disc.

The valve disc when closed is subjected to the hydraulic pressure existing in the standpipe and to the pressure exerted by the spring, both tending to force the disc against its seat. When the valve is to be opened, water under pressure is admitted to the cylinder below the piston, and by reason of the fact that the area of the piston is greater than that of the valve disc, the piston and disc move upward against the pressure exerted by the spring. When the operating cylinder is vented to the air the spring closes the valve.

Box Control and Control Piping

The control box for each standpipe is mounted directly in the riser at the first story, in a fireproof enclosure provided with a drain and accessible from the street. It provides a means by which pressure can be transmitted to any one of the hydraulically operated valves on the standpipe or to the hydraulic lift cylinder.

The control box is essentially a chamber with heavy walls of cast steel, provided with flanged connections at top and bottom for attachment to the riser, with a brass pipe and valve for the connection to the hydraulic lift cylinder, a brass fitting and valve for the attachment of a test gauge, and in some installations a Siamese connection for the attachment of hose lines from a hydrant or fire engine.

The control cock for each story valve is of the 3-way type and is installed in a ⅜-inch brass pipe which is threaded at each end into the control box. The lower end of the pipe is perforated and is thus open to the water pressure within the control box. The upper end of the pipe is connected to a ⅛-inch brass pipe installed inside the riser and extending to the tee at a particular story of the building, where it passes out through a threaded connection and connects with the operating cylinder of the shut-off valve for the story nozzle. In one position of the control cock, pressure from the control box is admitted to the valve cylinder. In the other position connection between the two is shut off and the valve cylinder is vented to the air through the brass piping and cock. In order to prevent injury to the piping on account of expansion or contraction due to temperature changes each brass pipe is clipped to the sides of the riser and provided with an expansion loop in the discharge fitting to which it is connected, and in the control box at the first story.

The control cock for the hydraulic lift cylinder is 1 inch in diameter and similar to those just described except that it has an intermediate position in which all ports are closed so that after pressure is admitted to the lift cylinder the pressure therein may be maintained without change. The control cock is connected to the control box as already described, except that the 1-inch brass pipe on its discharge side extends downward inside the standpipe and opens into the hydraulic lift cylinder. For installations in which the water supply to the standpipe is admitted at the control box, the control pipe supplies water under pressure to the lower portion of the lift cylinder, thus tending to raise the piston and the entire standpipe. In this case, a brass plug is installed near the lower end of the standpipe to prevent the transmission of pressure from the riser to the lift cylinder, and the upper portion of the cylinder is permanently vented to the atmosphere. For this type of installation the downward motion of the standpipe is due to gravity only. For installations in which the water supply to the standpipe is admitted through the bottom of the hydraulic lift cylinder, the control pipe supplies water under pressure to either the top or bottom of the cylinder. In this case the pressure admitted to the upper side of the piston is sufficient to overcome the tendency of the service pressure to raise the piston and the standpipe, and the pressure admitted to the underside of the piston is sufficient to overcome the gravity influence due to the weight of the standpipe and the attached parts.

Turning Bars

Turning bars in the form of large spanners are furnished for rotating the standpipes. Holes are provided in the top and bottom flanges of the control box for the attachment of the bars, two of which are provided with each standpipe.

Fire Waste Council Forms School Committee

The National Fire Waste Council which is affiliated with the insurance department of the Chamber of Commerce of the United States has formed a committee to stimulate interest in the formation of short courses for firemen in leading educational institutions. The committee is to be known as the Fire Service Extension Committee. The formation of this group has developed due to the success of short firemen's courses held at the Iowa State College and at the University of Illinois.

Those named on the committee are George H. Parker, Chairman, manager of the Kentucky Actuarial Bureau, Louisville, Ky.; Walter Hough, Baltimore, Md.; Clarence Goldsmith, assistant chief engineer, National Board of Fire Underwriters, Chicago, Ill.; Frank McAuliffe, Chicago Board of Fire Underwriters, Chicago; Lindon J. Murphy, Iowa State College, Ames, Ia.; W. A. Newman, assistant secretary, Board of Fire Underwriters of the Pacific, San Francisco; C. E. Palmer, University of Illinois, Urbana, Ill.; George Richardson, secretary, International Association of Fire Fighters, Washington, D. C.; Harry Rogers, Western Actuarial Bureau, Chicago, and Fred Shepperd, managing editor, FIRE ENGINEERING, New York City.

Firemen Deny Hiring Workers for Increase—Philadelphia, Pa., firemen denied the charge that they employed professional propaganda workers to aid them in their campaign for an increase in pay. The firemen used both the newspapers and the radio in this drive. They had the use of the radio without any charge.

PROPOSED IMPROVEMENTS

Mt. Vernon, Westchester Co., N. Y.—Sites considered for construction of proposed new central fire station. James Berg, Mayor.

Stillman Valley, Ogle Co., Ill.—To purchase a new piece of fire apparatus for use in town and rural communities, in near future. (Previous reference Oct. 23.)

(North) Wildwood, Cape May Co., N. J.—An appropriation is to be made early next year for purchase of apparatus for the two fire companies here.

Chester, Delaware Co., Penn.—The 1929 budget calls for the purchase of a new ladder truck for the Goodwill or No. 4 Fire Co.

Litchfield, Montgomery Co., Ill.—Fire and Water Committee was authorized to purchase a new car for the fire chief.

Pana, Christian Co., Ill.—City Council considering the erection of new fire station.

Martins Ferry, Belmont Co., Ohio.—A special meeting of Council was held recently and the purchase of new fire apparatus was discussed.

Position Wanted

Young man 25 years of age, four years experience in Class B fire department, wishes position in City of from 20,000 to 40,000 population, either as driver of apparatus or in the ranks. Address, D. J. Kelley, 36 So. Union St., Burlington, Vt. 11-28, 12-12-26.

CONVENTION DATES

Jan. 15-17, 1929—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. 47th Annual Convention, Fremont, Neb. Secretary, H. A. Webbert, Kearney, Neb.

April 11-13, 1929—ARIZONA STATE FIREMEN'S ASSOCIATION. 6th Annual Convention, Yuma, Ariz. Secretary, Chief W. J. Nemeck, Douglas, Ariz.

May, June or July, 1929—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 24th Annual Convention, Columbia, S. C. Exact date to be decided later. Secretary, Richard S. Hood, Sumter, S. C.

June, 1929—KANSAS STATE FIRE CHIEFS' AND FIREMEN'S ASSOCIATIONS. Tentative date of Conventions and first Fire School in Kansas, Newton, Kan. Exact date to be announced later. Secretary of both Associations, Chief K. D. Doyle, Wamego, Kan.

June 12-14, 1929—MARYLAND STATE FIREMEN'S ASSOCIATION. 37th Annual Convention, Lonaconing, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 20-21, 1929—EASTERN ASSOCIATION OF FIRE CHIEFS. 2d Annual Convention, New York City. (Meeting place to be decided later.) Secretary, T. Howell Johnson, Room 602, Chamber of Commerce Bldg., Newark, N. J.

July, 1929—MONTANA STATE FIREMEN'S ASSOCIATION. 38th Annual Convention (tentative date), Butte, Mont. Secretary-Treasurer, D. E. Moser, Bozeman, Mont.

July 9-11, 1929—MICHIGAN STATE FIREMEN'S ASSOCIATION. 55th Annual Convention, Sault Ste. Marie, Mich. Secretary, H. L. Williams, Luddington, Mich.

August, 1929—IDAHO FIREMEN'S CONVENTION. Tentative date, August or September, Idaho Falls, Ida. Secretary-Treasurer, Earl Heath, Idaho Falls.

Aug. 7-9, 1929—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Fullerton, Cal. Secretary-treasurer, H. E. Strasser, 1171 Tenth St., San Diego, Cal.

Aug. 7-9, 1929—SOUTHWESTERN ASSOCIATION OF VOLUNTEER FIREMEN OF NEW YORK. Annual convention, Falconer, N. Y. Secretary, Royce Alden, Falconer, N. Y.

Aug. 20-23, 1929—FIREMEN'S ASSOCIATION STATE OF NEW YORK. 57th Annual Convention, Saranac Lake, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.

Aug. 26-28, 1929—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 7th Annual Convention, Gallup, N. M. Secretary-Treasurer, Theodore A. Rosenwald, Albuquerque, N. M.

Sept. 3-5, 1929—KENTUCKY STATE FIREMEN'S ASSOCIATION. 1st Annual Convention, Ashland, Ky. Secretary, Captain S. G. Render, 303 Speed Bldg., Louisville, Ky.

Sept. 9-11, 1929—ARKANSAS STATE FIREMEN'S ASSOCIATION. 8th Annual Convention, Camden, Ark. Secretary-Treasurer, H. D. Compton, Central Fire Station, Little Rock, Ark.

Sept. 10-12, 1929—ILLINOIS FIREMEN'S ASSOCIATION. 42nd Annual Convention, Joliet, Ill. Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Sept. 17-18—IOWA STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Red Oak, Ia. Secretary, E. E. Parsons, Marion, Ia.

Sept. 20-21, 1929.—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Atlantic City, N. J. (Tentative date, to be definitely set later by Executive Committee). Secretary, William Exall, Room 602, Chamber of Commerce Bldg., Newark, N. J.

Oct. 1-3, 1929—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 50th Annual Convention, Hotel Roosevelt, Pittsburgh, Pa. Secretary, Charles E. Clark, P. O. Box 217, Wayne, Pa.

Oct. 22-25, 1929—INTERNATIONAL ASSOCIATON OF FIRE CHIEFS. 57th Annual Convention, Hotel Tutweiler, Memphis, Tenn. Exhibits, City Auditorium. Recording Secretary, Chief James J. Mulcahey, Yonkers, N. Y.; Executive Secretary, Jay W. Stevens, 1113 Merchants Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Selden R. Allen, Brookline, Mass.

Eastern Chiefs Will Meet in June

At a meeting of the directors of the Eastern Association of Fire Chiefs held in New York City December 12, June 20 and 21 has been set as the date of the annual convention but no place has been selected for the gathering. This detail will be decided by a committee consisting of President Charles Greenfield, Deputy Chief John Waldron of New York City and T. Howell Johnson, secretary of the association.

The association is considering whether it will be worth while to have an exhibit of fire apparatus at this meeting. This matter is being considered by the previously mentioned committee with the addition of Chief Ross B. Davis of Philadelphia and Charles H. Fischer, consulting engineer.

An interesting round table discussion is being planned. Chief John Kenlon of New York City is to preside at the session. The officers decided to adopt as part of the program of each of the association's conventions, subjects that were presented by Chief Kenlon as a part of his inaugural address at the Kansas City convention. An effort will be made to make the programs of interest to the volunteer service.

Detroit Adds Another Company

Engine Company No. 58 was formally put into service at 9:40 a. m. on December 1, 1928. This company is the latest addition to the Detroit Fire Department and is located at the intersection of Whittier and Lakepointe Avenues in the extreme eastern end of the city, which location takes care of a section that is now rapidly building up.

The new quarters are housed in a two-story building of cut stone and brick construction of the most modern type. On the ground floor is the apparatus room and watch desk, a sitting room for the men, a dining room and kitchen directly to the rear, the latter being equipped with all the latest appliances, including electric refrigeration. In addition, the ground floor also takes care of various requirements for housekeeping utensils, drying and storing of firemen's equipment, together with a lavatory, and entrance to the hose tower. The stairway to the second floor leads from the rear of the apparatus room. The dormitory above is well lighted, and there is also on the second floor separate office and sleeping quarters for the officers. At the rear is a large locker room and adjoining is the company's wash room.

The formalities inaugurating the new company were simple but impressive. The officers and men were lined up at attention and addressed in a short but impressive speech by Chief Stephen DeMay regarding the responsibilities of this new company. Thereupon, Battalion Chief John W. Curry of the Sixth Battalion reported to Deputy Chief W. H. Dodenhoff that the new company was present and ready for duty. This, in turn, was conveyed to Chief DeMay who informed Central Telegraph Headquarters. The "in-service" taps were then sent to all fire companies in the city and Engine 58 became an actuality.

The ceremonies were witnessed by various friends of the officers and men and a number of citizens interested in fire department developments.

In addition to Captain Terhune and Lieutenant Schneider, the company is composed of the following men: F. W. Doherty, W. J. Willoughby, R. E. Rahn, C. Phillips, N. M. Fohey, O. J. Schultz, A. L. Strom, C. M. Bidleman, R. Langlois, A. O. Banks, G. J. Soden, F. E. Rowe, W. J. Lipke, B. P. Centille.

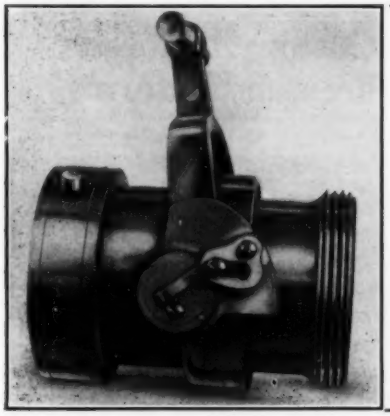
Fire Prevention of Value in Cape Cod

Experiments carried on by the United States Forest Service on fire prevention problems in the Cape Cod forest area of Massachusetts have been so successful that the same plan will be followed in other sections of the northern Atlantic states where the conditions are similar.

Fire losses in the Cape Cod section were formerly very high. The inhabitants were aroused to the problem and educated by newspaper publicity, posters and motion pictures, and a forest patrol was established. Funds came from private sources, from the state and from the national government.

More Equipment Needed in Urbana, Ill.—A member of the Ohio Inspection Bureau has stated that Urbana, Ill., needs more fire-fighting equipment. The purchase of new apparatus was suggested.

Firemen Injured in Butte Apparatus Crash—Captain Smith and two firemen, who were responding on a ladder truck to a call in Butte, Mont., crashed into a pole, when the driver quickly jammed his brakes to prevent striking a moving ore train. The captain is the most seriously injured. He was pinned against the side of the truck by a ladder. Firemen were placing chains on the truck when the call came in. The driver saw the train blocking his path, and only prompt work prevented a crash with the train.



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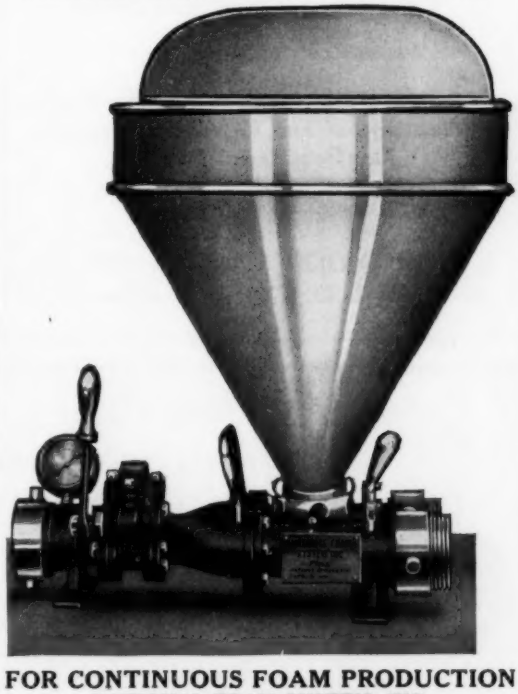

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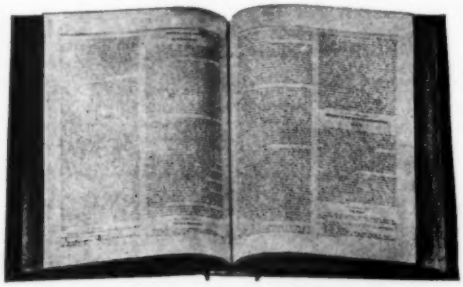

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FIRE DEPARTMENT ACTIVITIES

Weymouth, Mass., May Purchase Apparatus—Weymouth, Mass., is considering the purchase of a pumper.

Kellogg, Ia., Raising Funds—Funds are being raised in Kellogg, Ia., for the purchase of fire apparatus.

Saugus, Mass., May Buy Pumper—Saugus, Mass., is considering the purchase of a pumper to cost $12,000.

New Station Opened in Clearwater, Fla.—A new fire house has been officially placed in service in Clearwater, Fla.

Allegany, N. Y., Firemen Raise Funds—Funds are being raised in Allegany, N. Y., for the purchase of a chemical car.

White Mills, Pa., Buys Pumper—White Mills, Pa., has purchased a Dodge-Graham triple combination equipped with a Barton fire pump installed by the Naval Co.

Ex-Chief Byrnes of Wickford, R. I., Dead—Peter E. Byrnes, ex-chief of Wickford, R. I., and senior vice-president of the New England Veteran Firemen's Association, died recently.

Fitchburg, Mass., to Build Repair Shop—Plans are being made by Fitchburg, Mass., to erect a repair shop and a new fire alarm headquarters.

Brimfield, Mass., May Install Fire Alarm—Funds are being raised in Brimfield, Mass., for the installation of a fire alarm system.

Chief Newman of Melrose, Mass., Injured—Chief Frank C. Newman of Melrose, Mass., broke two fingers in a fall while directing his men at a fire.

Ambrose, Fire Alarm Superintendent of Framingham—Announcement has been made of the appointment of William Ambrose as superintendent of fire alarms in Framingham, Mass.

Double-Deck Pumper Sold to Henry Ford—The old hand double-decked pumper of Haverhill, Mass., has been sold to Henry Ford for his museum in Dearborn, Mich.

Fond du Lac, Wis., Buys Fire Apparatus—Fond du Lac, Wis., purchased a Studebaker car equipped with a Pirsch fire-fighting equipment.

Rhinelander, Wis., Firemen Want Increase—A petition has been presented to the council of Rhinelander, Wis., for an increase in pay for members of the fire department.

Alameda, Cal., to Erect Fire Station—Bids are being considered for the construction of a new fire station of the bungalow type in Alameda, Cal.

Grand Rapids Adopts Fire Prevention Code—A comprehensive fire prevention code has been adopted in Grand Rapids, Mich.

Hollywood Delays Fire Station Plans—Final decision as to the site is holding up the construction of the proposed fire station for Hollywood, Cal.

Ocean City, N. J., Orders New Pumpers—Ocean City, N. J., has ordered three new pieces of Ahrens-Fox apparatus for $39,800. One is to be a 500-gallon pumper and the other two, 1,000-gallon pumpers.

Fireman Accused of Sounding False Alarms—A former call man of Belmont, Mass., has been given a suspended sentence of two months upon condition that he leave the state at once. He was found guilty of sounding false alarms.

Boston Firemen Have Close Call with Dynamite—After extinguishing a small fire aboard a yacht in drydock in East Boston, Mass., firemen found a quantity of dynamite aboard that was to be used for scientific work in South America.

Box 52 Association Visits Belmont—Members of the Box 52 Association were guests of Chief William H. Hill of Belmont, Mass., on an inspection trip to the new fire station. A buffet supper was served.

Stradivarius Bought With Extinguisher—A man in Willimantic, Conn., is reported to have traded a fire extinguisher for an old violin which later was discovered to be a genuine Stradivarius.

Oklahoma City May Erect New Fire House—It is believed that a new fire station will be erected in Oklahoma City, Okla. The firemen may erect the station themselves in order to cut down the cost.

Harrisville, R. I., Chief to Resign—Clarence G. Cook, chief of the Harrisville, R. I., department for the past twelve years, announced that he will not be a candidate for re-election to that office.

Martinez, Cal., Arranges for First Aid Work—Martinez, Cal., has received a first aid outfit and will instruct the firemen in this type of work. The department expects to organize first aid teams and then develop friendly rivalry among the men.

Keokuk, Ia., Firemen Get Increase—Effective May 1, the firemen of Keokuk, Ia., will get an increase in pay. The new tax budget will be operating at that time and more money will be available for the men.

Philadelphia Denies Firemen's Increase—Philadelphia has denied the firemen's application for an increase in rates, and city officials have rebuked the men for arousing public sentiment for such an increase.

Wilkes-Barre to Erect Fire House—Plans will be drawn for the erection of a combination fire house and police station in the Parsons section of Wilkes-Barre, Pa. The present station in the Miners Mills section will be remodeled.

Against Speed Limit of Fire Apparatus—Chief George S. Watson of Washington, D. C., is against the plan advocated to limit the speed of fire apparatus. The move to reduce the speed followed the death of a young woman killed by the car of a battalion chief.

Port Huron, Mich., Revising Department Rules—Under the supervision of the safety commissioner, the rules and regulations of the fire department, Port Huron, Mich., are being revised. The rules now in force were drawn up for the old horse-drawn days of fire apparatus.

Chief Espey Speaks at Firemen's Meeting—Chief John H. Espey, Elmira, N. Y., was the principal speaker at the annual banquet of the Horseheads volunteer fire department. He spoke on the successful operation of a fire department and told of many interesting incidents in his long career as a fire-fighter.

New Apparatus Delivered to Livingston, N. Y.—A Chevrolet chemical car, with two 35-gallon tanks, and a 500-gallon Brockway pumper, both products of the Fire and Marine Equipment Corporation of Watertown, N. Y., have been delivered to Livingston, N. Y. These two units will protect five villages.

N. F. P. A. Plans for 1929 Meetings—Plans are being made for the 1929 convention of the National Fire Protection Association to be held in Memphis, Tenn., May 13-16. A special train will transport members from Chicago and another special train is being planned to leave from New York City.

Electrical Inspectors Form Association—The International Association of Electrical Inspectors has been formed with five sections, five chapters and a membership of 2,033. J. C. Forsyth is the first president and Victor H. Tousley, secretary-treasurer.

Fort Wayne Publishes Fire Record—C. S. Steup, director of the Fire Prevention Bureau in Fort Wayne, Ind., has arranged with local newspapers to publish each week a record of fires and their causes together with written comment on how they might have been prevented.

Apparatus Crashes Into Train—A mass of crumpled and twisted metal is all that is left of what was once a shining chemical car of Eugene, Ore., after the apparatus crashed into the Shasta Limited of the Southern Pacific. Chief Nusbaum was slightly hurt and the driver was seriously injured.

Breder Re-elected Chief of Egg Harbor—H. W. Breder has been re-elected chief of the department of Egg Harbor, N. J., for the thirty-sixth year. After his election, Chief Breder gave a talk outlining plans for the department. He suggested the creation of a junior fire department.

Denver Orphanages to Have Boy Fire Chiefs—A plan has been worked out whereby each of the eight orphanages in Denver, Col., will have a boy selected from the institution to act as fire chief. Weekly fire drills will be held with the boy fire chief in charge. An annual "fire chiefs" convention will be held for the boys at which time they will get instruction in fire prevention work.

Traffic Rule Starts Discussion—According to a previous ruling, fire apparatus of Battle Creek, Mich., when responding to alarms in the downtown and outlying sections, stop when the traffic signal lights are set against them. Merchants in the downtown area who have valuable property to protect are against halting fire apparatus at traffic lights. No test has been made to see if the arrangement now in use has hampered the department.

FALSE ALARMS

JUST FOR FUN

O'Brien was nursing a very sore jaw. As such things are uncommon his friend asked him how he acquired it.

"At the election for chief; Burns lost. I was glad. I didn't know how Burns felt but just then he got up and cracked a smile."

"Well?"

"That's how I got a sore jaw. It was *my* smile."

PROPERLY EQUIPPED

The stern motorcycle cop drew up alongside of a motorist who was racing a fire company and ordered the car to the curb.

"Where the devil do you think you are going — to the fire?"

The automobilist, seeing that he was cornered, replied:

"Why no — I — I was just rushing to catch a train."

"That's fine," said the cop with a smile "in a minute I'll give you your ticket."

A man from the cellar always comes up smiling.

WHAT A SIMPLE GAME!

The chief in a midwest city today must be more than a fire-fighter. He must be a good mixer in social circles. This chief found that it paid, for he then had no trouble in getting money for needed improvements. He solved the social problem by taking up golf.

Attired in golf knickers that could be also used to carry the full golfing equipment, he waited for some friends to make a party.

"What do you go round the course in?" asked one.

"Oh, I do it in eighty-six."

"Playing less than a year and you do it in eighty-six? And what did you do it in, six months ago?"

"Eighty-six."

"How do you do it?"

"Oh, that's easy. I go around the course and of course count my strokes. When I get to eighty-six, I stop."

INFORMATION BUREAU

The fellow at the desk was not in the best of humor when the phone rang. A colored cook had called to get the firemen down to extinguish a fire in the kitchen range.

"Hello! Hello! What am dis number?" she asked to be sure that she had the fire department.

"Hello, yourself! You ought to know. You called it."

The trouble with most women is their trouble with most men.

TIME WAITS FOR NO ONE

This story is being repeated in the same way it was told by a delegate to one of our recent conventions:

One of the party, married, was seated in the lobby of the hotel admiring the scenery when two units of animated landscape moved in his direction and stopped in front of him.

"Good evening; you look lonesome," said one of the girls.

"I am," was the reply.

"Well, forget it. Come with us and we'll show you a good time."

"I can't do it," the chief said; "it's too late."

"Aw, it ain't late. It's only nine o'clock."

"But I don't mean that," was the reply. "I meant twenty years."

Boasting of the men in his department, one volunteer fire department chief said, "I am so proud of my boys. Not one of them has ever been arrested except for speeding and on liquor charges."

NEAR SIGHTED

The engine house on a busy city street had a fine dog for a mascot—a friendly, sociable and active animal. Every one liked him. One day the dog was missing.

A neighbor asked a fireman who was lounging near the doorway, "Where's the dog?"

"Well, do you see that trolley car coming down the street?"

"Yes," replied the man in bewilderment.

"Well, the dog didn't."

MOST IMPORTANT

After the general preliminaries following the delivery of a pumper to the little, picturesque village, the delivery engineer took one of the appointed men out on the road to instruct him in the whys and wherefores of the mechanism.

He turned to the fireman and said:

"This is the gear shift; down there is the brake; yonder is the accelerator and over here is the clutch."

At this point he was interrupted by the student.

"Let's take one thing at a time. Teach me to drive first."

—*Drawing by "Art" Espey*

Heaven Protects the Working Girl and the Rural Resident

Sometimes the truth can be very blunt and painful and sometimes newspapers have been known to make typographical errors. Just which holds true in the following case is hard to say, but in the *St. Croix Courier* of St. Stephen, N. B., was printed, "The firemen in Milltown, Maine, were called to a blaze in the chimney of the home of John Groves on Thursday last. The chemicals were used, thus preventing the firemen from doing any damage."

Your Catalog Page

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3 Acid Jars and Rings.
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16 Body Equipments.
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24 Chassis for Fire Apparatus.
25 Chemical Engines and Tanks.
26 Chimney Cleaning Compounds.
27 City Service Trucks.
28 Coats & Suits, Firemen's Quick Hitch.
29 Combination Chemical & Hose Cars.
30 Cutting & Welding Equipment, Blow Torch.
31 Cutting & Welding Equipment, Electric.
32 Deluge Sets.
33 Door Openers, Fire Station, Automatic.
34 Extinguishers, Fire, Soda & Acid.
35 Extinguishers, Fire, Tetrachloride.
36 Extinguishers, Fire, Foam.
37 Extinguishers for Chimney Fires.
38 Fire Boat Nozzle Equipment.
39 Fire Department Supplies, General.
41 Fire Exit Devices, Door Opening.
42 Fire Alarm Posts.
43 Fire Escapes, Portable.
44 Fire Escapes, Rigid.
45 First Aid Equipment.
46 Flare Lights.
47 Flashlights, Hand.
48 Foam Liquid for Extinguishers.
49 Gas Masks and Respirators.
50 Gas & Smoke Helmets.
51 Gasoline & Oil Handling Equipment.
52 Goggles, Firemen's.
53 Helmets, Metal, etc.
54 Hose Carts, Reels & Racks.

Harmony?

Whenever you are in the market for new equipment you naturally want to get complete information from all reliable manufacturers before you place the orders for your department.

This page is a feature of every issue to make it convenient for you to get all this information without cost to you and witout placing you under any obligation whatever to buy from any particular manufacturer.

You only have to run down the list of equipment and mail in the coupon below with your name and address and the numbers that indicate what you are interested in and we will then have the leading manufacturers of this equipment send you complete information direct—so why not let us help you get what you want? We are glad to be of service. Help yourself.

For Information on Any Equipment Not Listed, Write on This Page or Use Separate Sheet.

55 Hose Clamps.
36 Extinguishers, Fire, Foam.
57 Hose, Chemical.
58 Hose Holders.
59 Hose Jackets.
60 Hose Standardization Tools.
61 Hydrant Draining Pumps.
62 Hydrants, Fire.
63 Jacks for Fire Trucks.
64 Jacks, Shoring & Prying.
65 Ladders, Fire.
66 Lightning Arresters.
67 Motorcycles, Fire Dept. Equipped.
68 Nets, Life.
69 Nozzles, Pipes & Misc. Brass Goods.
70 Packings, Pumps.
71 Pads, Pole Hole.
72 Paints, Fire Resisting.
73 Priming Ether, Motor.
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75 Pumping Cars, Foam.
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82 Rubber Clothing.
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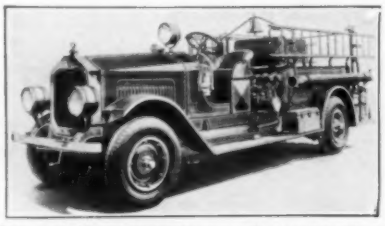

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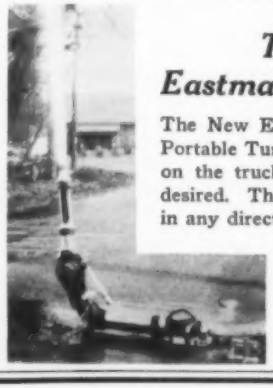

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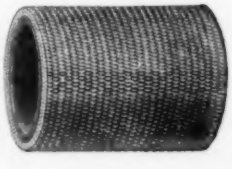

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This machine is a combination pumper, hose-car and booster engine. It was designed primarily for community and country fire service.

It is Pirsch quality clear through. Parts are oversize. Its capacity is far in excess of requirements. Like all Pirsch apparatus, it will stand sustained high speed and long periods of continuous service without strain or overloading.

Pirsch apparatus is built in a modern factory with complete facilities. All materials used must meet unusually high quality standards. As an example, the special wood of which Pirsch Trussed Fire Ladders are made is kept in dry storage at our plant for three to five years before it is used. Every part and every finished machine is carefully inspected and thoroughly tested. The buyer is guaranteed satisfactory performance before any machine is delivered.

This care, plus the established record of this organization through three generations of public service, is your assurance of the utmost in quality in all Pirsch apparatus. Interesting literature on the entire Pirsch line mailed on application. Write.

PIRSCH
EST 1857

Pirsch Champion Model 20
600 Gallon Community
Fire Fighter

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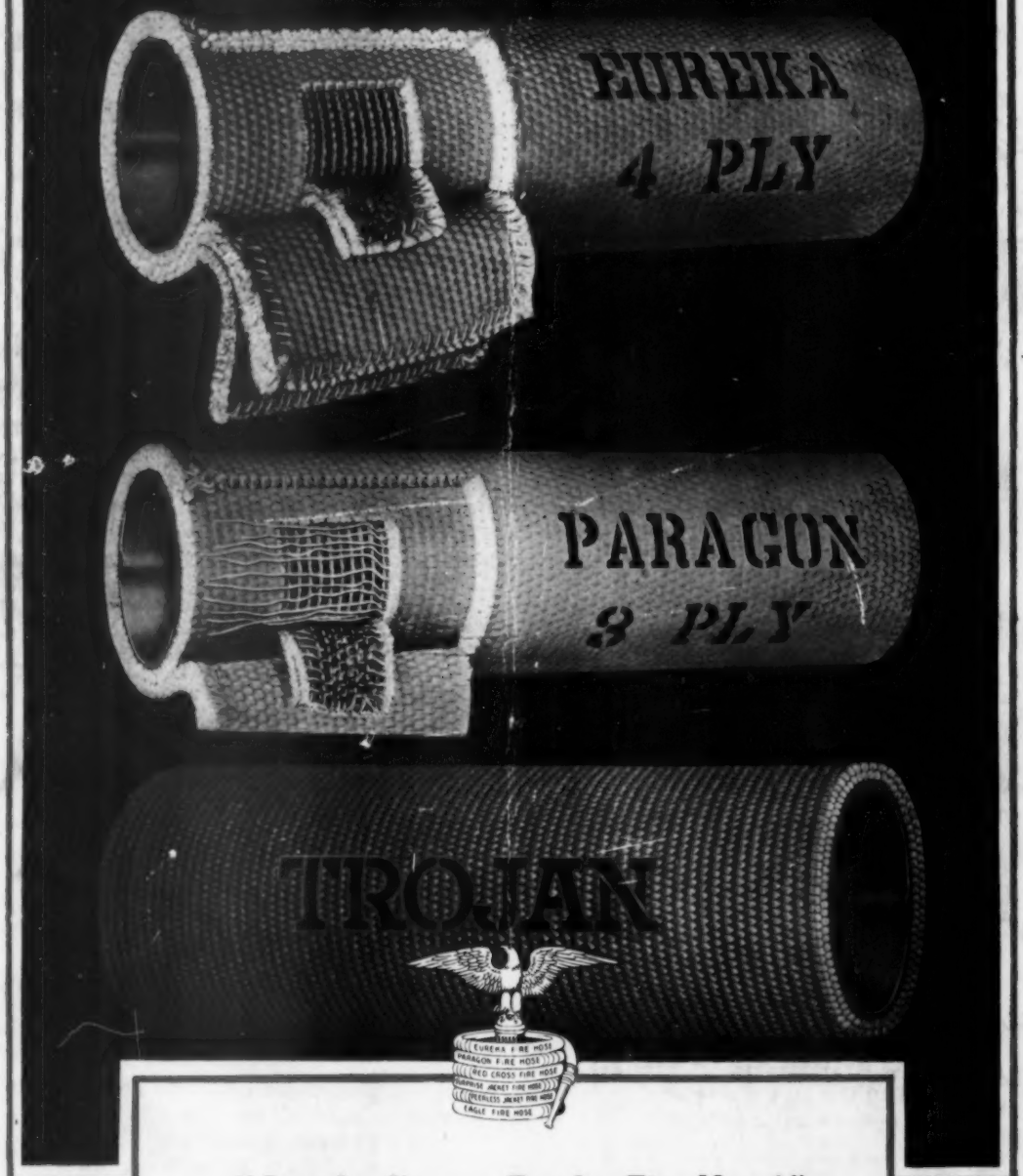
EUREKA
FIRE HOSE



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